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BIBLIOGRAPHY

LLU TRANSLATIONS BULLETIN. Feb 60, 168p.
Order from HMSO $0.77, $9.88/year

New translations of Russian scientific and technical literature, recent additions to the Lending Library Unit loan collection of 15,000 individual translations and the translating activities of official and commercial organizations are regularly noted in the LLU TRANSLATIONS BULLETIN. In addition each issue includes several complete translations of Russian papers on such important topics as automation, education, machine translation, scientific research and new developments in China.

SOVIET SCIENCE AND TECHNOLOGY, 1959, VOL. 3, NO. 10. A monthly guide to Soviet research. Dec 59, 82p.
Order from CB $25.00/year

English table of contents of 1958-1959 issues of all Soviet journals being translated into English on a coninuing basis.

Library of Congress, Washington, D. C.
MONTHLY INDEX OF RUSSIAN ACCESSIONS. Feb 60, 325p.
Order from GPO $12.00/year

This index is a record of the publications in languages spoken in the Soviet Union currently received by the Library of Congress and a group of cooperating libraries. It consists of three parts: Part A lists monographic literature published after 1944, with the title in the original language preceded by its English translation; Part B lists periodicals published after 1946, with their tables of contents translated into English; Part C constitutes a subject guide to both the monographs and periodical articles listed in Parts A and B.

AGRICULTURE

GIDROTEKHNIKA I MELIORATSIYA (USSR) 1959, NO. 11, P. 3-64 (Hydraulic Engineering and Soil Improvement). [1959] 1v. SOV-99-59-11-(1-15)/15.
Order from OTS $0.50, $3.00/6 mo. PB 141 092T-19
Foreign $0.75, $4.50/6 mo.

Consists of abstracts in English.

Chirkov, G. N.
INSTRUMENT FOR MEASURING THE HEIGHT OF THE REAR FLAT OF THE PLOUGHSHARE BLADE (Pribor dlya Izmereniya Vysoty Zatylochnoy Faski Lezviya Lemekha) tr. by M. Slade. [1959] [3]p. (foreign text included) Trans. no. 3986.
Order from LC or SLA mi$1.80, ph$1.80 59-19609

Trans. of Traktory i Sel'khozmashiny (USSR) 1959, no. 2, p. 40.

Animal Husbandry

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1958, NO. 13 (Soviet Abstracts. Biology). 14 Jan 60, 27p. JPRS: 2145-N.
Order from OTS $1.00 60-11190

Contents:
Section R. Diseases of Farm Animals. Abstracts 59681-59766.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

Schmidt, Jonas.
BLACK AND WHITE LOWLAND COWS AND JERSEY-BULLS CROSSING EXPERIMENTS AND THEIR EVALUATION (Schwarzbunte Niederungs-Kuhe und Jersey-Bullen Kreuzungsversuche und ihre Auswertung). [1959] [24]p.
Order from SLA mi$2.70, ph$4.80 60-10815

Trans. of Züchtungskunde (West Germany) 1948, v. 20, p. 29-39.

Plant Cultivation

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR)
1958, NO. 11 (Soviet Abstracts. Biology). 20 Jan 60, 62p. JPRS: 2162-N.
Order from OTS $1.00 60-11210

Contents:
Section J. Soil Science. Abstracts 48570-48703.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR)
1958, NO. 22 (Soviet Abstracts. Biology). 20 Jan 60, 28p. JPRS: 2163-N.
Order from OTS $1.00 60-11211

Contents:
Section K. Forestry. Abstracts 100130-100194.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR)
1958 (Soviet Abstracts. Biology).
Order from OTS $1.00

Contents:
Section M. Cultivated Plants.
No. 11, abstracts 48820-49191, JPRS: 2132-N, 60-11178
No. 19, abstracts 86941-87302, JPRS: 2140-N, 60-11186

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR)
1958 (Soviet Abstracts. Biology).
Order from OTS $1.00

Contents.
Section N. Weeds and Weed Control.
No. 11, abstracts 49197-49212, JPRS: 2106-N, 60-11156
No. 14, abstracts 63633-63656, JPRS: 2168-N, 60-11219
No. 18, abstracts 82605-82638, JPRS: 2141-N, 60-11187

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR)
1958, NO. 14 (Soviet Abstracts. Biology).
21 Jan 60, 13p. JPRS: 2169-N.
Order from OTS $1.00 60-11220

Contents:
Section O. Plant Diseases. Abstracts 63657-63707.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

Klechkovskiy, V. M.
THE USE OF ISOTOPES AND NUCLEAR RADIATIONS IN AGRONOMIC RESEARCH (Oprimenenii Izotopov i Yadernykh Izluchenii v Agronomicheskikh Issledovaniyakh) tr. by R. J. Zatorski. [1959] [33]p. (4 figs. omitted) (foreign text included). 105 refs.
Trans. no. 4232.
Order from LC or SLA mi$3.00, ph$6.30 59-19600

Trans. of [Moskovskaya Sel'skokhozyaystvennaya Akademiya. Izvestiya] (USSR) 1957, no. 3(16) p. 7-32.

This general survey is based on an extensive bibliography of Soviet references.

Lustig, B. and Wachtel, H.
EFFECT OF ANIMAL ORGAN EXTRACTS ON THE GERMINATION OF PLANTS; EFFECT OF ANIMAL ORGAN EXTRACTS ON THE GROWTH OF GERMINATED PLANTS; EFFECT OF ORGAN EXTRACTS, ESPECIALLY OF THE PITUITARY EXTRACT ON GROWTH; EFFECT OF EXTRACTS FROM BENIGN AND MALIGNANT TUMORS ON THE GERMINATION AND GROWTH OF PLANTS. [1959] 10p. 8 refs.
Order from SLA mi$1.80, ph$1.80 60-10645

Trans. of Soc[iété de] Biol[ogie et de ses Filiales]. Compt[es] Rend[us des Séances] (France) 1939, v. 132, p. 224-230 and 243-249.

ASTRONOMY

A REVIEW OF SOVIET AIRGLOW AND AURORAL LITERATURE. 30 Dec 58 [203]p. 456 refs.
Order from LC or SLA mi$9.30, ph$31.80 60-13294

Consists of reviews composed largely from Soviet publications 1940-57 and including some pre-1940 periodicals.

BEHAVIORAL SCIENCES

Psychology

Leont'yev, A. N., Gal'perin, P. Ya., and El'konin, D. B.
SCHOOL REFORM AND THE TASKS OF PSYCHOLOGY. 9 Nov 59, 28p. JPRS: L-1060-N.
Order from OTS $0.75 60-11008

Trans. of Voprosy Psikhologii (USSR) 1959, v. 5, no. 1, p. 3-22.

Problems confronting the pedagogical psychologist of the USSR are considered in general terms. By the provisions of the 1958 decree of the Supreme Soviet, every child must be included in a program of socially useful work, and the guiding principle in teaching must be a close correlation between teaching, production, and the practical building of communism.

Orne, Martin T.
THE EFFICIENCY IN HYPNOSIS AND IN THE WAKING STATE (Die Leistungsfähigkeit in Hypnose und in Wachzustand) tr. by P. Pallamary. 30 Jan 59, 17p.
Order from LC or SLA mi$2.40, ph$3.30 59-12939

Trans. of Psychologische Rundschau (West Germany) 1954, v. 5, no. 4, p. 291-297.

BIOLOGICAL SCIENCES

Gartner, H. and Peters, K.
EFFECT OF DOSE AND DOSE RATE OF X-RAYS AND HIGH-SPEED ELECTRONS ON THE FREQUENCY OF MITOSIS IN TISSUE CULTURE.
22 Oct 58, 7p. 24 refs. CCT-519.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-3732

Trans. of Strahlentherapie (West Germany) 1953, v. 92, p. 555-562.

Ivanova, M. P.
CHANGES IN CORTICAL DYNAMICS AMONG SCHOOL CHILDREN IN CONNECTION WITH VARIOUS PHYSICAL STRESSES. 18 Nov 59, 13p. 2 refs. JPRS: L-1071-N.
Order from OTS $0.50 60-11033

Trans. of Problemy Yunosheskogo Sporta (USSR) 1958, no. 1, p. 230-241.

Anatomy and Physiology

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1959 (Soviet Abstracts. Biology).
Order from OTS $1.00

Contents:
Section T. Human and Animal Physiology.
No. 2, abstracts 7695-8615, JPRS: 2128-N, 60-11173
No. 6, abstracts 26214-27214, JPRS: 2142-N, 60-11188

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

Bakh, I., Gorlov, O. and others.
MEDICAL-BIOLOGICAL PROBLEMS IN SPACE FLIGHTS. 7 Oct 59 [36]p. (3 figs. omitted) 1 ref. AF 1256169.
Order from LC or SLA mi$3.00, ph$6.30 59-22143

Trans. of mono. Chelovek v Kosmose, Moscow, 1958, ser. 8, v. 1, no. 20.

This popular pamphlet indicates the problems raised by the g effect, weightlessness, cosmic radiation etc. It concludes with the statement that man will eventually adapt himself to space flight.

Galkin, A. M., Gorlov, O. G. and others.
INVESTIGATIONS OF THE LIFE FUNCTIONS OF ANIMALS DURING FLIGHTS IN HERMETICALLY-SEALED CABINS OF ROCKETS UP TO HEIGHTS OF 212 KM. [1959] [28]p.
Order from LC or SLA mi$2.70, ph$4.80 60-10069

Trans. of Preliminary Results of Scientific Investigations on the First Soviet Artificial Earth Satellites and Rockets, no. 1.
Also available from LC or SLA mi$3.00, ph$6.30 as part of 59-22466, DSIR LLU M. 398 [1959] [34]p.

For abstract see 59-22466 below.

Galkin, A. M., Gorlov, O. G. and others.
MEDICO-BIOLOGICAL RESEARCH IN ROCKETS; RESEARCH ON THE LIFE ACTIVITY OF ANIMALS DURING FLIGHTS IN HERMETICALLY SEALED

CABINS OF ROCKETS UP TO A HEIGHT OF 212 KM; RESEARCH ON THE LIFE-ACTIVITY OF ANIMALS DURING FLIGHTS IN THE HERMETICALLY SEALED CABINS OF ROCKETS UP TO AN ALTITUDE OF 110 KM. [1959] [34]p. 19 refs. M398.
Order from LC or SLA mi$3.00, ph$6.30 59-22466

Trans. of mono. Preliminary Results of Research by Means of the First Soviet Artificial Earth Satellites and Rockets, Moscow, 1958, p. 109-149.

A detailed account is given of the cabin arrangements and of the instruments devised for recording physiological data, together with the results obtained during the actual flight of dogs.

Skripchenko, A. V.
ON THE PROBLEM OF INDIVIDUAL DIFFERENCES IN DEPTH PERCEPTION (K Voprosu ob Individual'nykh Razlichiyakh v Vospriyatii Glubiny) tr. by Claudius F. Mayer. Sep 59 [8]p. 4 refs. H 4680.
Order from OTS $0.50 59-21218

Trans. of O[ftalmologicheskiy] Zh[urnal] (USSR) 1959, no. 1, p. 24-28.

Biochemistry

Bresler, S. Ye. and Glikina, M. V.
ENZYMATIC SYNTHESIS OF POLYPEPTIDES UNDER PRESSURE. [1959] 39p. 28 refs.
Order from LC or SLA mi$3.00, ph$6.30 60-10860

Trans. of *Biokhimiya (USSR) [1947] v. 12, no. 5, p. 389-405.

The inversion of the action of various proteolytic enzymes under conditions of high pressure was experimentally shown. Trypsin, pepsin, erepsin, papain resynthesize under a pressure of several thousand atmospheres from protein hydrolyzates products. Under the action of erepsin there proceeds the synthesis of peptide bonds also in the simple substrates (amino acids and dipeptides). Control experiments with the inactivation of the enzyme and with acidic hydrolyzates of proteins showed that resynthesis under pressure represents an enzymatic process. The depth of the resynthesis depends on the external pressure and on the depth of the hydrolysis of the protein. The hydrolysis and the subsequent resynthesis of the protein can be repeated a number of times under the action of one and the same portion of enzyme. The synthetic action of enzymes under pressure is an expression of the general principles of thermodynamics (the principle of Le Chatelier - Van't Hoff). (Author)

Cherbulies, Emile, Jeannerat, Jean, and Meyer, Kurt H.
COLLAGEN A. COLLAGEN B AND GELATINE. [1959] 2p.
Order from SLA mi$1.80, ph$1.80 60-10830

Trans. of Soc[iété de] Phys[ique et] d'Hist[oire] Nat[urelle de] Geneve. Compt[e] Rend[u des Séances] (Switzerland) 1937, v. 54, p. 122-123.

Dub, Ota and Kulenda, Zdenek.
RAPID DETERMINATION OF GLYCOSURIA WITHOUT APPLICATION OF A FLAME OR A SOLUTION. [1959] 5p. (1 fig. omitted) 11 refs.
Order from SLA mi$1.80, ph$1.80 60-10848

Trans. of Casopis Lekaru Ceskych (Czechoslovakia) 1958, v. 97 [no. 34] p. 1077-1078.

Euler, Hans v.
SUBSTRATA AND GROWTH HORMONES. [1959] 20p. 22 refs.
Order from SLA mi$2.40, ph$3.30 60-10566

Trans. in manuscript of Arkiv för Kemi, Mineralogi och Geologi (Sweden) 1944, v. 18B, no. 3, p. 1-8.

Fasulo, A.
EXPERIMENTAL RESEARCH ON THE CRYSTALLIZATION OF BLOOD PIGMENT. [1959] 5p. 8 refs.
Order from SLA mi$1.80, ph$1.80 60-10878

Trans. of Folia Medica (Italy) 1947, v. 30, p. 257-263.

Our experiments confirm the impossibility of obtaining oxyhemoglobin and carboxyhemoglobin crystals from human blood which yields only reduced hemoglobin. This negative quality may have some value in the specific diagnosis of a trace of blood from the viewpoint of forensic medicine, insofar as blood which gives osyhemoglobin and carboxyhemoglobin crystals is certainly not human blood. In animal blood (horse, guinea pig, dog) the possibility of obtaining oxyhemoglobin crystals depends on the state of preservation of the erythrocytes. In animal blood treated with carbon monoxide in vitro and in vivo the formation of carboxyhemoglobin crystals is more stable in the second case; this is first noted when the oxycarbonic content amounts to at least 10%. (Author's conclusions)

Faure, M.
UTILIZATION OF FREEZE-DRY METHODS FOR EXTRACTION OF LABILE SUBSTANCES, tr. by P. M. M. 9 Jan 57, 5p. 9 refs.
Order from SLA mi$1.80, ph$1.80 60-10698

Trans. of Congres International du Chauffage Industriel (no. 4) [Paris, 1952. Comptes rendus] no. 46.

Freeze-drying is a method of dehydration which is of particular interest when labile substances, soluble in organic solvents, are to be extracted without modification, because, on the one hand, this operation is conducted at a low temperature and a deep vacuum and the product is protected against any harmful effects caused by heat, enzymes and oxygen, and on the other

hand, the extreme porosity of the material dried by this method facilitates its extraction considerably. (Author)

Garreau, Yvonne.
FORMATION OF SULFURIC ACID FROM SOME ORGANIC SULFUR DERIVATIVES BY ASPERGILLUS NIGER, tr. by P. M. M. [1959] 4p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-10644

Trans. in manuscript of Soc[iété de] Biol[ogie et de ses Filiales]. Compt[es] Rend[us des Seances] (France) 1941, v. 135, p. 508-510.

Goshtyalek, Z., Gerold, M. and others.
SUBSTITUTION OF STARCH FOR SUCROSE IN THE FERMENTATION MEDIUM FOR CHLORTETRACYCLINE BIOSYNTHESIS. 20 Nov 59, 8p. 12 refs.
Order from SLA mi$1.80, ph$1.80 60-10961

Trans. of Antibiotiki (USSR) 1959, v. 4, no. 3, p. 8-12.

Guseva, A. R. and Paseshnichenko, V. A.
ENZYMATIC HYDROLYSIS OF GLYCOALKALOIDS OF SOLANUM AVICULARE. 9 Dec 59, 5p. 6 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10950

Trans. of *Biokhimiya (USSR) 1959, v. 24, no. 3, p. 563-565.

Jores, Arthur.
CHANGES IN THE PITUITARY HORMONE CONTENT IN THE LIGHT AND DARK. [1959] [20]p. (1 fig. omitted) 21 refs.
Order from SLA mi$2.40, ph$3.30 60-10687

Trans. in manuscript of Klinische Wochenschrift (Germany) 1935, v. 14 [no. 48] p. 1713-1716.

With alkaline extraction of the pituitary gland, the melanophore hormone content increases about 10-fold but decreases with Ringer solution extraction. No changes in the intermedin content of the pituitary gland are detected in the change from light to darkness. The amount of oxytocic principle in the pituitary gland of animals kept in the dark is increased. There is a relation between the pituitary hormone and the eye. Pigment migration to produce adaptation to darkness is controlled by the pituitary gland. The importance of these changes in hormone content produced by darkness for the control of 24-hour periods is pointed out. It offers a simple explanation for the frequent onset of labor pains during the night. (Author's summary)

Lobe, A. A. and Murtagh, R. V.
CONTRIBUTION TO THE STUDY OF THE PRECIPITINE. [1959] 3p.
Order from SLA mi$1.80, ph$1.80 60-10859

Trans. of Asoc[iación] Bioquim[ica] Arg[entina]. Revista, 1941/1942, v. 8, p. 15-18.

Lombroso, Ogo.
THE FUNCTION OF THE PANCREAS CONSIDERED AS AN ENDOCRINE GLAND, FOR THE ABSORPTION OF FAT. [1959] 2p.
Order from SLA mi$1.80, ph$1.80 60-10841

Trans. of summary and conclusions of Annales de Physiologie et de Physicochimie Biologique (France) 1940, v. 16, p. 298-312.

Lynen, F. and Reichert, Ernestine.
THE CHEMICAL STRUCTURE OF THE "ACTIVATED ACETIC ACID". [1959] 12p. 16 refs.
Order from SLA mi$2.40, ph$3.30 60-10555

Trans. in manuscript of Angewandte Chemie (West Germany) 1951, v. 63 [no. 2] p. 47-48.

Mazza, F. P., Migliardi, C., and Penati, F.
THE NATURE OF THE GASTRIC ANTIANEMIC PRINCIPLE. [1959] [35]p. 90 refs.
Order from SLA mi$3.00, ph$6.30 60-10843

Trans. of Arch[ivio di] Sci[enze] Biol[ogiche] (Italy) 1941, v. 27, p. 291-326.

An enzyme isolated from the gastric mucosa of the hog is described. The substance is tentatively classified as a protease.

Pershin, G. N. and Shcherbakov, L. I.
MICROBIOLOGICAL DETERMINATION OF FOLIC ACID WITH THE AID OF READILY AVAILABLE MEDIA. [1959] 8p. (2 figs. omitted) 12 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10824

Trans. of Biokhimiya (USSR) 1951, v. 16, no. 2, p. 171-175.

Plückthun, Hans and Götting, Heinz.
THE ELECTROPHORETIC INVESTIGATION OF SERUM PROTEINS ON FILTER PAPER, tr. by P. M. M. 21 Apr 54, 8p. 15 refs.
Order from SLA mi$1.80, ph$1.80 60-10632

Trans. of Klinische Wochenschrift (Germany) 1951, v. 29 [no. 23/24] p. 415-420.

Severin, S. E., Skulachev, V. P., and Kiselev, L. L.
REGULATION OF PHOSPHORYLATIVE AND NONPHOSPHORYLATIVE OXIDATION BY HEXOKINASE. [1959] 5p.
Order from ATS $6.25 ATS-62L36R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1959, v. 128, no. 3, p. 628-631.

Smyk, Boleslaw
THE EFFECT OF MICROFLORA ON THE DIASTATIC VALUE OF MALTS. 8 July 59, 13p. 16 refs. JPRS: L-1753-D.
Order from OTS $0.50 59-11686

Trans. of Przemysl Spozywczy (Poland) 1956 [v. 10] no. 1, p. 22-25.

Takikawa, Hiroo.
INTERACTION OF STEROIDAL HORMONE WITH SERUM PROTEIN. VII. INFRARED SPECTRA OF PROTEIN-BOUND STEROIDS. [1959] 8p. 20 refs.
Order from SLA mi$1.80, ph$1.80 60-10972

Trans. of [Yakugaku Zasshi] (Japan) 1959, v. 79, no. 6, p. 794-799.

See also 60-10976

Takikawa, Hiroo.
INTERACTION OF STEROIDAL HORMONES WITH SERUM PROTEINS. VIII. BIOLOGICAL PROPERTIES OF PROTEIN-BOUND STEROIDS. [1959] 7p. 20 refs.
Order from SLA mi$1.80, ph$1.80 60-10976

Trans. of [Yakugaku Zasshi] (Japan) 1959, v. 79, no. 6, p. 799-802.

See also 60-12376

Travia, L. and Veronese, A.
NICOTINIC ACID AND MINERAL METABOLISM. I. INFLUENCE OF NICOTINIC ACID ON THE METABOLISM OF POTASSIUM. [1959] 2p. 5 refs.
Order from SLA mi$1.80, ph$1.80 60-10879

Trans. of Soc[ietà] Ital[iana di] Biol[ogia] Sper[imentale]. Boll[etino] 1940, v. 15, p. 1193-1194.

Vladimirov, G. E. and Bolotina, Z. I.
THE REDUCTION OF METHEMOGLOBIN BY ASCORBIC ACID. [1959] 10p. 22 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10829

Trans. of Biokhimiya (USSR) 1944, v. 9, p. 312-321.

Methemoglobin obtained by the action of different agents can be reduced by ascorbic acid. The reduction proceeds in hemolyzed blood as well as in intact red blood cells. Nitrite methemoglobin is reduced less rapidly and not so regularly as methemoglobin obtained by the action of quinone or ferricyanide. The reduction of methemoglobin by ascorbic acid is accelerated by dichlorophenol-indophenol and especially by methylene blue. The velocity of the reduction rises with temperature, but is not markedly affected by changes of pH between 6 and 8. (Authors' English summary)

General Biology

ON SOME PROBLEMS OF SOVIET BIOLOGY. [1959] 25p. 25 refs. Trans. A-1061.
Order from LC or SLA mi$2.70, ph$4.80 59-22317

Trans. of Bot[anicheskiy] Zhur[nal] (USSR) 1958, v. 43, no. 8, p. 1135-1145.

Observations are presented on an article by T. D. Lysenko, entitled For Materialism in Biology, which "gave a distorted picture of the state of biology in the USSR".

RUSSIAN REVIEW OF BIOLOGY, 1959, VOL. 48, NO. 1. [1959] 110p.
Order from OB $5.00, $30.00/9 issues

Trans. of Uspekhi Sovremennoy Biologii (USSR) 1959, v. 48, no. 1.

Lepeshinskaya, O. P.
THE DEVELOPMENT OF BIOLOGICAL STRUCTURES IN AVIAN ALBUMEN. [1959] [16]p. (10 photos. omitted). M208.
Order from LC or SLA mi$2.40, ph$3.30 59-19102

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Biologicheskaya, 1950, no. 5, p. 102-109.

In a sterile culture of the albumen of the chick egg, structures make their appearance which undergo transformation through a series of stages into genuine living cells. Star-shaped bodies in the albumen are identified as the beginning of non-cellular structures which are transformed into cells. The hypothesis is made that, under the influence of salts occurring in the albumen, regenerative bodies belonging to it are formed into bio-crystals. It is possible to consider that in the albumen of the egg, development can pass through crystallization or through coacervation, depending on the conditions of the external environment. In all probability, embryologists will have to regard the albumen not simply as a nutritive material, but as living matter capable of development.

Mamul, Ya. V.
POST-MORTAL DIFFUSION OF SUBSTANCES IN TISSUES AT THE SOURCE OF ARTIFACTS IN AUTORADIOGRAPHY. 28 Sep 59, 3p. 2 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10941

Trans. of *Biofizika (USSR) 1959, v. 4, no. 1, p. 119-120.

Microbiology

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1959 (Soviet Abstracts. Biology).
Order from OTS $1.00

Contents:
Section E. Virology.

No. 1, abstracts 480-589, JPRS: 2101-N, 60-11152
No. 5, abstracts 19260-19374, JPRS: 2170-N, 60-11222

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

Gol'dat, S. Yu. and Alikhanyan, S. I.
THE EFFECT OF COMBINED APPLICATION OF ULTRA VIOLET AND X-RAYS UPON THE MUTAGENIC PROCESS IN STREPTOMYCES AUREOFACIENS LS-B16. 25 Sep 59, 6p. 8 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10905

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 125, no. 5, p. 1134-1136.

Kuznetsov, S. I.
BASIC RESULTS ON INVESTIGATION OF THE MICROFLORA IN PETROLEUM DEPOSITS. [1959] 8p. 45 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-14093

Trans. of *Mikrobiologiya (USSR) 1957, v. 26, no. 6, p. 651-658.

The direct introduction of bacterial cultures into petroleum-bearing strata at Sernovodsk resulted in an increase in nitrogen, carbon dioxide and propane respectively, and in a decrease in methane content. The dynamic viscosity of the petroleum was increased. Analogous results were obtained by pumping of bacterial cultures into strata at Berezov. Processes of decomposition of petroleum can therefore be accelerated by this means. This review is based on an extensive Soviet bibliography.

Kuznetsov, S. I. and Telegina, Z. P.
SOME DATA ON THE PHYSIOLOGY OF PROPANE OXIDIZING BACTERIA. [1959] 8p. 9 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-14091

Trans. of *Mikrobiologiya 1957, v. 26, no. 5, p. 513-518.

Kuznetsova, V. A. [Ashirov, K. B.] and others.
EXPERIENCE IN THE INHIBITING OF GROWTH OF SULFATE REDUCING BACTERIA IN THE PETROLEUM STRATUM OF THE LAKINOVO MINE. [1959] 10p. 18 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-14092

Trans. of *Mikrobiologiya (USSR) 1957, v. 26, no. 3, p. 330-337.

Orla-Jensen, S. and Snog-Kjaer, Agnete.
FACTORS WHICH ACTIVATE OR DEPRESS THE GROWTH OF LACTIC ACID BACTERIA. [1959] [16]p. 6 refs.
Order from SLA mi$2.40, ph$3.30 60-10856

Trans. of K. Danske Videnskabernes Selskab. Biologiske Skrifter, 1940, v. 1, no. 2, p. 5-19.

Orlova, N. V. and Verkhovtseva, T. P.
COMPARATIVE PHYSIOLOGICAL CHARACTERISTICS OF TWO OXYTETRACYCLINE PRODUCING-STRAINS OF ACT. RIMOSUS LS-T 118 AND 293. 10 Sep 59, 9p. 6 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10954

Trans. of *Antibiotiki (USSR) 1959, v. 4, no. 1, p. 26-31.

The comparative study of two oxytetracycline-producing strains Act. rimosus LS-T 118 and 293 have shown that both strains produce approximately the same amount of oxytetracycline under completely different conditions. The strain 293 requires for an intensive antibiotic synthesis a considerably larger concentration of nutrient substances in the medium, especially inorganic phosphorus and lactic acid. Under optimum oxytetracycline production conditions, both strains consume carbohydrate at an equal rate and accumulate the same amount of mycelium. (Author's summary)

Prokof'yeva-Bel'govskaya, A. A. and Popova, L. A.
THE INFLUENCE OF PHOSPHORUS ON THE DEVELOPMENT OF ACTINOMYCES AUREOFACIENS AND ON ITS ABILITY TO PRODUCE CHLORTETRACYCLINE. 23 Nov 59, 14p. 12 refs.
Order from LC or SLA mi$2.40, ph$3.30 60-10951

Trans. of *Mikrobiologiya (USSR) 1959, v. 28, no. 1, p. 7-13.

The parallel physiological and cytological investigations of the chlortetracycline producing culture (Actinomyces aureofaciens, strain 536) made it possible to disclose some intracellular causes of the dependence of the chlortetracycline biosynthesis on the inorganic phosphorus content of the nutritive medium. Increase of inorganic phosphorus in the fermentation medium leads to a rise in the RNA content in the protoplasm, accelerated growth of a mass of thickened fragmented hyphae, formation of large nuclear elements containing much DNA (in corn steep medium) and a corresponding acceleration in carbohydrate consumption. As compared with the control, the nuclear substance/cytoplasm ratio in the hyphae is shifted in the direction of nuclear substances. Following the addition to the corn steep medium of 0.05% phosphates, the relative quantity of the nuclear substance in hyphae increases approximately by a factor of 1.8. The ability of mycelium overloaded with nuclear elements rich in DNA to synthesize chlortetracycline is markedly reduced. The poor quality of separate batches of corn steep liquor used for the production of chlortetracycline is largely due to the high content of inorganic phosphorus. (Authors' summary)

Skalinskiy, E. I.
NEW FORMS OF HEN POX VIRUS. Paper presented at Second All Soviet Conference on Electron Micros-

copy, 10 May 58. 2 Nov 59, 3p. 3 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10942

Trans. of *Biofizika (USSR) 1959, v. 4, no. 1, p. 122-123.

Suprun, T. P. and Bekker, Z. E.
ON THE METHODS OF SOIL EXPLORATION FOR ANTIBIOTIC-PRODUCING FUNGI. 20 Oct 59, 10p. 10 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10963

Trans. of *Antibiotiki (USSR) 1959, v. 4, no. 4, p. 37-43.

The method developed by the All Soviet Scientific Research Institute on Antibiotics is described. Soil suspensions are sowed on an acidified Capek's medium which promotes growth of Fungi imperfecti and of Ascomycetes. Representatives of morphological groups are isolated, and their quantity calculated by their percentage of the total number of grown cultures. Special representatives isolated from various soils which are characterized as active or non-active are preserved in dry sterilized soil for future testing purposes.

Pathology

MILITARY MEDICAL JOURNAL, 1959, NO. 9. 28 Dec 59, 167p. JPRS: 2061-N.
Order from OTS $3.00 60-11115

Trans. of Voyenno-Meditsinskiy Zhurnal (USSR) 1959, no. 9.

MILITARY MEDICAL JOURNAL, 1959, NO. 10. 4 Jan 60, 171p. JPRS: 2102-N.
Order from OTS $3.00 60-11153

Trans. of Voyenno-Meditsinskiy Zhurnal (USSR) 1959, no. 10.

PUBLIC HEALTH IN THE USSR, A STATISTICAL HANDBOOK, 2D ED. [1959] [130]p
Order from LC or SLA mi$6.30, ph$19.80 60-13152

Trans. of mono. (handbook) pub. by Ministry of Health, USSR [Moscow] 1957.

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) (Soviet Abstracts. Biology).
Order from OTS $1.00

Contents:
Section U. General Problems of Pathology.
1958, no. 12, abstracts 56172-56545, JPRS: 2172-N, 60-11223
1958, no. 23, abstracts 10693-107208, JPRS: 2117-N, 60-11167
1959, no. 6, abstracts 27220-27617, JPRS: 2052-N, 60-11098

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

Boquien, Y., Hervouet, D. and others.
TWO CASES OF ACUTE RHEUMATOID ARTHRITIS TREATED BY INTRA[VENOUS] ADMINISTRATION OF SODIUM SALICYLATE; SPECTACULAR EFFECT OF MEDICAMENTAL SHOCK ON THE PROGRESS OF THE DISEASE. [1959] 8p. (2 figs. omitted) 2 refs.
Order from SLA mi$1.80, ph$1.80 60-10850

Trans. in manuscript of Soc[iété] Méd[icale des] Hôp[itaux de] Paris. Bull[etins] et Mem[ories] (France) 1950 [ser. 4] v. 66 [no. 17/18] p. 779-782.

Grekh, I. F.
THE THERAPEUTIC EFFECT OF CHLORTETRACYCLINE ENHANCED BY CERTAIN PYRIMIDINE DERIVATIVES. 23 Nov 59, 8p. 10 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10962

Trans. of *Antibiotiki (USSR) 1959, v. 4, no. 3, p. 90-94.
Another translation is available from ATS $9.50 as ATS-93L35R [1959] 5p.

Hirsch, Hermann.
PREMATURE SEPARATION OF THE PLACENTA AND BILATERAL CORTICAL NECROSIS OF THE KIDNEY. [1959] 14p.
Order from SLA mi$2.40, ph$3.30 60-10943

Trans. of Harefuah (Israel) [1958] v. 55 [no. 6] p. 145-150.

Case history.

Hohlweg, W. and Groot- Wassink, K. A.
HOW DOES STILBOESTROL PHOSPHATE AFFECT PROSTATE CARCINOMA? [1959] 18p. (20 illus. refs. omitted).
Order from SLA mi$2.40, ph$3.30 60-10846

Trans. of Deutsche Gesundheitswesen (East Germany) 1959, v. 14, no. 4, p. 152-157.

The special activity and efficiency of dihydroxydiethylstilbene disodium diphosphate against prostatic carcinoma is based upon its water-solubility and upon the fact that it is so well tolerated, so that large intravenous doses can be administered. Without any time delay one may by this means intensively increase the estrogen level in the blood, thus leading to an immediate blocking of the functioning of the anterior lobe of the pituitary.

Korpassy, B.
HEPATOMAS AND CHOLANGIOMAS PRODUCED IN THE RAT BY SUBCUTANEOUS ADMINISTRATION OF TANNIC ACID. Preliminary rept. [1959] 7p. (3 figs. omitted) 8 refs.
Order from SLA mi$1.80, ph$1.80 60-10861

Trans. in manuscript of Assoc[iation] Franc[aise pour] l'Étude [du] Cancer. Bull[etin] 1950, v. 37, p. 52-56.

Navashin, S. M.
THE INFLUENCE OF ANTIBIOTICS OF THE COURSE OF EXPERIMENTAL DYSENTERY INFECTION. 15 July 59, 7p. 7 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10985

Trans. of Antibiotiki (USSR) 1956, v. 1, no. 4, p. 44-48.

Pharmacology and Toxicology

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1959, NO. 6 (Soviet Abstracts. Biology). 5 Jan 60, 46p. JPRS: 2120-N.
Order from OTS $1.00 60-11170

Contents:
Section V. Pharmacology and Toxicology. Abstracts 27619-27864.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

Agostino, Lorenzo d'.
THE VASCULAR ERYTHEMATIC EFFECT OF NICOTINIC ACID UPON VARIOUS PORTIONS OF THE BODY OF MEN IN HEALTH AND VARIOUS DISEASES. [1959] [9]p. 9 refs.
Order from SLA mi$1.80, ph$1.80 60-10834

Trans. of Acta Vitaminol[ogica] (Italy) 1947, v. 1, p. 130-135.

Ammon, R. and Miller, W.
THE EFFECT OF LARGE DOSES OF PERISTON ON THE RABBIT ORGANISM ESPECIALLY IN REGARD TO THE STORAGE ORGANS. [1959] 13p. 9 refs.
Order from SLA mi$2.40, ph$3.30 60-10610

Trans. in manuscript of Deutsche Medizinische Wochenschrift. (Germany) 1949, v. 74 [no. 15] p. 465-468.

Large doses of periston administered to rabbits intravenously in the course of weeks or months are followed by changes in the spleen, lymph nodes, adipose tissue, liver, etc., which are comparable to the histological changes observed in connection with lipoidal thesaurismosis. These changes are not reversible, being detectable up to 41 weeks after the periston injections have been discontinued. If however the reticulo-endothelial system is blocked off by India ink injection, these changes do not follow the subsequent periston injection.

Belousova, I. L. and Popova, L. A.
A METHOD OF DETERMINING THE CORRELATION OF TETRACYCLINE AND CHLORTETRACYCLINE IN LIQUID CULTURES. 28 Sep 59, 5p. 11 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10983

Trans. of Antibiotiki (USSR) 1958, v. 3, no. 6, p. 24-26.

A method has been elaborated for determining the percentage correlations of chlortetracycline and tetracycline in a liquid culture of Act. aureofaciens. The method is based on chromatographic separation of tetracycline and chlortetracycline, extraction of separated antibiotics, with subsequent quantitative colorimetric determination. It affords quick and accurate determination of the correlation of tetracycline antibiotics, forming in the process of fermentation. (Authors' summary)

Bertelli, A.
ANTICONVULSANT ACTIVITY OF 2-ETHYL-cis-CROTONYLUREA. [1959] 5p. (1 fig. summary omitted) 11 refs.
Order from SLA mi$1.80, ph$1.80 60-10862

Trans. of Biologica Latina (Italy) 1959, v. 12, no. 1, p. 119-123.

Brazhnikova, M. G., Kruglyak, Ye. B. and others.
THE ISOLATION AND PURIFICATION OF THE ANTIBIOTIC 6613 AND INVESTIGATION OF SOME OF ITS PHYSICAL AND CHEMICAL PROPERTIES. 19 Oct 59, 7p. 4 refs.
Order from LC and SLA mi$1.80, ph$1.80 60-10965

Trans. of *Antibiotiki (USSR) 1959, v. 4, no. 4, p. 29-33.

Dauri, A., Franceschini, G., and Horvath, D.
FIRST CLINICAL USE OF SYNTHETIC HYPERTENSIN (Prime Applicazioni Cliniche dell'Ipertensina Sintetica). [1959] 10p. 12 refs.
Order from SLA mi$1.80, ph$1.80 60-14096

Trans. of Gazz[etta] Interna[zionale de] Med[icina] e Chir[urgia] (Italy) 1959, v. 64, p. 259-265.

Experiences in the use of val5-octapeptide CIBA to correct intrasurgical hypotensive conditions, surgical shock etc in 40 patients (thyroidectomy, gastric resection, splenectomy, hemicolectomy, nephrectomy) at the surgical clinic of the University of Rome are reported. Results do not justify any final conclusions, but the drug is found to have the same indications as norepinephrine intravenously. It is suggested that

hypertensin probably develops a more intense effect than norepinephrine on the splanchnic receptors. Variations in diuresis and renal blood supply observed in healthy normotensive individuals do not constitute an obstacle to the use of hypertensin in shock.

Dressler, E. and Hölling, K.
ASSAY OF THYROID PREPARATIONS. [1959] 7p. 7 refs.
Order from SLA mi$1.80, ph$1.80 60-10844

Trans. of [Naunyn-Schmiedeberg's] Arch[iv für] Exp[erimentelle] Pathol[ogie und] Pharmakol[ogie] (Germany) 1940, v. 196, p. 266-273.

Elpidina, O. K.
ANTIBIOTIC AND ANTIBLASTIC PROPERTIES OF A NEW PREPARATE: POINE. Paper presented at Second All Soviet Conference of Antibiotics, May-June 57. 5 Dec 59, 6p. 12 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10964

Trans. of *Antibiotiki (USSR) 1959, v. 4, no. 4, p. 46-50.

A crystalline substance has been obtained from the fungus Fusarium sporotrichiela var. poae Bilai. In experiment this substance, named Poine, exercised both antibiotic and antiblastic action. It cured experimental leukocytosis in mice, suppressed the development of Ehrlich's adenomas obtained with drug applied in doses 20 times lower than lethal ones and 10 times below the maximum tolerable ones. (Author's summary)

Gauze, G. F., Maximova, T. S. and others.
MUTOMYCIN, A NEW ANTIBIOTIC PRODUCED BY ACTINOMYCES ATROOLIVACEUS. 19 Nov 59, 5p. 1 ref.
Order from LC or SLA mi$1.80, ph$1.80 60-10960

Trans. of *Antibiotiki (USSR) 1959, v. 4, no. 3, p. 20-23.

Gottlebe, P. and Skibbe, W.
EXPERIMENTAL ANEMIAS AND THEIR SUITABILITY AS TESTS FOR ANTIANEMIC SUBSTANCES. II. THE COLLARGOL-SAPONIN ANEMIA OF RATS AS A QUALITATIVE TEST FOR INJECTABLE LIVER EXTRACTS. [1959] 8p. (3 illus. omitted).
Order from SLA mi$1.80, ph$1.80 60-10838

Trans. of [Naunyn-Schmiedeberg's] Archiv f[ür] Experimentelle Pathologie und Pharmakologie (Germany) 1936, v. 181, p. 317-324.

Ida, Tadao.
STUDIES ON PROTECTIVE COATING. VIII. PRACTICAL APPLICATION TO PHARMACEUTICAL PREPARATIONS. [1959] 8p. 1 ref.
Order from SLA mi$1.80, ph$1.80 60-10970

Trans. of [Yakugaku Zasshi] (Japan) 1959, v. 79, no. 3, p. 281-286.

Coating of diphenhydramine hydrochloride for pharmaceutical preparations was found to prevent moisture absorption. Coating of thiamine, ascorbic acid, acetylsalicylic acid, and oxytetracycline tablets was effective in preventing periodical change of these drugs and to stabilize the tablets. Preparations coated with benzylaminomethylcellulose, diethylaminomethylcellulose, dodecylamine N-lactoside, vinyldiethylamine-vinyl acetate copolymer, polyvinylpiperidylacetacetal and vinylpiperidylacetacetal-vinyl acetate copolymer were found to undergo rapid disintegration in simulated gastric juice. (Author's abstract)

Kaiser, H. and Frey, H.
AN ABSOLUTE COLORIMETRIC ESTIMATION OF CAMOMILE DRUGS AND A CONCLUSIVE SUMMARY OF THE METHOD OF DETERMINATION OF AZULENES AND ITS POSSIBLE APPLICATION. [1959] 17p. 3 ref.
Order from SLA mi$2.40, ph$3.30 60-10672

Trans. in manuscript of Deutsche Apotheker-Zeitung (Germany) 1942, v. 57, p. 155-156 and 163-164.

Kotev, G.
NEW MILITARY TOXIC AGENTS WITH GENERAL TOXIC AND RESORPTIVE ACTION. 22 Dec 58, 8p. (4 photos 1 table omitted). JPRS Trans: L-563-N.
Order from OTS $0.50 59-13182

Trans. of Armeyski Pregled (Bulgaria) 1958, no. 4, p. 83-89.

The toxic substances here discussed are tabun, sarin, soman and diisopropylfluorophosphate. This paper, which appeared in a military journal, appears to be addressed to non-medical personnel.

Krasil'nikov, N. A., Kryabin, G. K. and others.
THE CONVERSION OF CORTISONE TO PREDNISONE BY MEANS OF MYCOBACTERIUM SP. NO. 193. [1959] 6p. 7 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10991

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 128 [no. 5] p. 1063-1065.

La Barre, Jean and Reuse, Jean.
THE HYPOGLYCEMIC ACTION OF CERTAIN SULFANAMIDE DERIVATIVES. [1959] 6p. 13 refs.
Order from SLA mi$1.80, ph$1.80 60-10471

Trans. of Arch[ives] Néerland[aises de] Physiol[ogie de l'Homme et des Animaux] (Netherlands) 1947, v. 28 [no. 3/4] p. 475-480.

Lazarev, N. V., Lyublina, E. I., and Madorskaya, R. Ya.
ON THE NARCOTIC EFFECT OF XENON. [1959]

6p. 5 refs. A. C. S. I. L. Trans. no. 1228.
Order from SLA mi$1. 80, ph$1. 80 60-10902

Trans. of Fiziologischeskiy Zhurnal SSSR, 1948, v. 34, no. 1, p. 131-134.

Our experiments with xenon, which showed that an inert gas can have definite narcotic properties even at normal pressure, is a final proof that the narcotic action of the inert gases does not depend on changes of atmospheric pressure, and that a narcotic effect is possible even in the case when a substance does not participate in any chemical reactions in the organism. (Authors' conclusion)

Mamiofe, S. M., Sinitsyna, Z. T., and Khokhlov, A. S.
A METHOD OF ISOLATION AND SEMI-PURIFICATION OF THE ANTIBIOTIC POLYMYXIN, II.
14 Sep 59, 9p. 2 refs.
Order from LC or SLA mi$1. 80, ph$1. 80 60-10953

Trans. of *Antibiotiki (USSR) 1959, v. 4, no. 1, p. 10-15.

An improved method of isolation and purification of polymyxin from fermentation broth with the help of ion-exchange resins is described. This method permits to recover about 75% of the antibiotic. (Authors' summary)

Matsumaru, Hideo.
TABLET DISINTEGRATION BY SURFACE TENSION.
29 Oct 59, 4p. 6 refs.
Order from SLA mi$1. 80, ph$1. 80 60-10971

Trans. of [Yakugaku Zasski] (Japan) 1959, v. 79, no. 6, p. 854-855.

Maurin.
THERAPEUTIC VALUE OF FRESH BONE POWDER.
[1959] 6p.
Order from SLA mi$1. 80, ph$1. 80 60-10853

Trans. of Académie [Nationale] de Médecine [Paris] Bulletin (France) 1934 [ser. 3] v. 111, p. 58-63.

Meier, R. and Gross, Fr.
THE EFFECT OF THE SYNTHETIC ADRENAL CORTEX HORMONE (DESOXYCORTICOSTERONE) IN RELATION TO THE FORM OF APPLICATION.
14 Jan 52, 24p. 18 refs.
Order from SLA mi$2. 70, ph$4. 80 60-10607

Trans. in manuscript of D[eu]tsch[e] Med[izinische] W[ochen]schr[ift] (West Germany) 1950, v. 75 [no. 35] p. 1150-1153.

Naito, Hiromichi.
PREPARATION OF STABLE MICRONIZED LIPIDS.
14 Sep 59, 2p.
Order from LC or SLA mi$1. 80, ph$1. 80 60-10929

Trans. of Japanese patent 328 (1957) patent application 11117, appl. 19 Apr 55, pub. 23 Jan 57.

A procedure is described which prevents deterioration of vitamin A as effectively as sealing in vacuum tubes. The procedure consists of emulsifying castor oil or other oils containing vitamin A, mixing the emulsion with a gelatin solution, atomizing the emulsion in a solvent (e. g. alcohol, ether, or acetone), removing the minute particles solidified by this treatment, and finally applying a coating of sugar, if desired. The product is completely protected from oxidation and can withstand prolonged storage without deterioration. When the preparation is shaken at 37% with artificial gastric or intestinal juice it dissolves in 2 to 5 minutes and becomes an emulsion, indicating that its digestibility and absorbability are excellent.

Nilovskaya, I. S.
A TECHNIQUE OF RECORDING CHANGES OF PAIN SENSITIVITY IN MICE. 18 Nov 59, 3p.
Order from LC or SLA mi$1. 80, ph$1. 80 60-10967

Trans. of *Farmakologiya i Toksikologiya (USSR) 1959, v. 22, no. 3, p. 280-281.

A proposed method for the study of analgesic substances is based on the motive reaction of mice to painful temperature excitation of the skin of the extremities. The apparatus consists of 2 actographs with mobile aluminum floor bases which are heated by an electrospiral attached at the bottom. A third base is fixed firmly and is similarly heated. Temperature is regulated and measured by an electrical thermometer fixed on the third base. The actograph bases are connected with myographs: all movements of the animals are registered on a kymograph.

Orlova, N. V.
THE ROLE OF CERTAIN ORGANIC ACIDS IN THE BIOSYNTHESIS OF OXYTETRACYCLINE. Paper presented at Second All Soviet Conference on Antibiotics, 2 June 57. 15 Oct 59, 9p. 4 refs.
Order from LC or SLA mi$1. 80, ph$1. 80 60-10959

Trans. of *Antibiotiki (USSR) 1959, v. 4, no. 2, p. 34-39.

Parhon, C. I., Aslan, A., and Cosmovici, N. L.
THE ACTION OF VITAMINS H_1 AND H_3 ON THE PROLIFERATION OF THE ANIMAL CELL. EXPERIMENTS ON PROTOZOA (INFUSORIA) [1959] 14p.
Order from ATS $18.95 ATS-18L31RU

Trans. of [Academia Republicii Populare Romine. Bul[etin] Stiintific. Sectia de Stiinte Medicale (Rumania) 1957, v. 9, no. 1, p. 135-152.

Perrault, Marcel, Vignalou, J., and Poinsard, G.
SIMPLIFICATION OF THE THORN TEST BY SUBSTITUTION OF ADRENOCHROME FOR ADRENALINE.
[1959] 5p. (refs. omitted).
Order from SLA mi$1.80, ph$1.80 60-10851

Trans. of Société Médicale des Hôpitaux de Paris. Bull[etins et] Mem[oires] (France) 1950 [ser. 4] v. 66 [no. 9/10] p. 405-407.

Roffe, A. E., Jr. and Fracone, M. P.
THE SPECTOGRAPHIC DETERMINATION OF INSULIN. [1959] 9p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-10831

Trans. of Inst[ituto de] Med[icina] Exp[erimental para el] Estud[io y Tratamiento del] Cancer. Bol[etin] (Argentina) 1941, v. 18, p. 1003-[1011].

Sato, Gimichi.
ADSORPTION OF THE ACTIVE PRINCIPLE OF THE POSTERIOR LOBE OF THE HYPOPHYSIS BY ANIMAL CHARCOAL. [1959] 5p. 5 refs.
Order from SLA mi$1.80, ph$1.80 60-10839

Trans. in manuscript of [Naunyn-Schmiedeberg's] Arch[iv fllr] Exp[erimen]t[e]l[le und] Path[ologie und] Pharmakol[ogie] (Germany) 1928, v. 130, p. 323-325.

Solov'yeva, N. K., Il'inskaya, S. A., and others.
ANTIBIOTICS PRODUCED BY CERTAIN COREMIA-FORMING ACTINOMYCETES. 23 Sep 59, 11p. 3 refs.
Order from LC or SLA mi$2.40, ph$3.30 60-10958

Trans. of *Antibiotiki (USSR) 1959, v. 4, no. 2, p. 40-45.

The article contains data bearing upon the study of actinomycetes capable of forming coremia. The coremia strains were endowed with a broad antimicrobial activity spectrum. In all coremia cultures under investigation the active principle was essentially connected with the protoplasm of the mycelium, and only a small amount of it was isolated into the external medium. Among the cultures examined, one of the strains (1299-2) was endowed with a well-pronounced antiviral effect in in vivo experiments. From the mycelium of another strain (1491-1) in antibiotic, showing a high activity against Staphylococcus aureus, was obtained at the Chemical Department of the All-Union Scientific Institute of Antibiotics. (Authors' conclusions)

Spernanskaya, N. P.
THE INFLUENCE OF VARIOUS HYPOTENSIVE PREPARATIONS FROM THE PANCREAS ON THE BLOOD PRESSURE. 19 Oct 59, 2p.
Order from LC or SLA mi$1.80, ph$1.80 60-10968

Trans. of *Farmakologiya i Toksikologiya (USSR) 1959 v. 22, no. 3, p. 273-274.

Trakhtenberg, D. M., Baykina, V. M. and others.
STUDIES ON THE MODES OF ISOLATION AND OF THE PROPERTIES OF ANTIBIOTICS VIRUSIN 16-09, LURIDIN (111) AND ANTIBIOTIC 587/13. 7 Oct 59, 8p, 9 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10957

Trans. of *Antibiotiki (USSR) 1959, v. 4, no. 2, p. 9-14.

The authors investigated the modes of isolation, purification, as well as the chemical and physical properties of several antibiotics of actinomycetic origin (virusin 16-09, luridin 111) endowed with an antiviral activity, as well as of antibiotic 587/13 which is active against a number of Candida species. Raw materials and chlorohydrates of virusin 16-09 and luridin 111 have been found to be closely related as to their elementary composition, chemical and physical properties, as well as to the biological effect. (Authors' summary)

Tsyganov, V. A., Golyakov, P. N. and others.
ON THE ANTIFUNGAL ANTIBIOTIC 26/1, ITS BIOLOGY AND ISOLATION. 14 Sep 59, 9p. 8 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10955

Trans. of *Antibiotiki (USSR) 1959, v. 4, no. 1, p. 21-25.

From a culture of Actinomyces globisporus Kras, there was isolated an antibiotic of the polyene series, belonging to the group of heptaenes. The antibiotic is endowed with both fungistatic and fungicidal activity with respect to dermatophytes and yeast-like fungi of the genus of Candida albicans. (Extracted from the authors' conclusions)

Villela, Gilberto Guimaraes.
THE BIOCHEMICAL ESTIMATION OF THE ANTIANEMIC SUBSTANCE OF THE LIVER. [1959] 9p. (refs. omitted).
Order from SLA mi$1.80, ph$1.80 60-10858

Trans. of Asociación Bioquimica Argentina. Revista, 1941/42, v. 8, no. 23, p. 3-18.

Weidner, H.
HEALTH HAZARDS IN PAINT SPRAYING. [1959] 12p. (5 figs. footnotes omitted).
Order from SLA mi$2.40, ph$3.30 60-10756

Trans. of Gasmaske (Germany) 1938, v. 10, p. 120-127.

Yoshino, Toshio.
ION EXCHANGE IN PHARMACEUTICAL INDUSTRY. [1959] 15p. 44 refs.
Order from SLA mi$2.40, ph$3.30 60-10944

Trans. of Kagaku to Kogyo, Osaka (Japan) 1958, v. 32, p. 334-340.

There is no indication of original work in this general review, which is largely based on U. S. sources.

Zoology

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1958, NO. 14 (Soviet Abstracts. Biology). 21 Jan 60, 72p. JPRS: 2166-N.
Order from OTS $1.00 60-11216

Contents:
Section P. General and Special[ized] Zoology. Insects. Abstracts 63803-64128.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

Rass, T. S.
ICHTHYOLOGICAL INVESTIGATIONS OF THE INSTITUTE OF OCEANOLOGY ACAD. SCI. IN THE FAR-EASTERN SEAS, tr. by Alice Grosline and W. A. Gosline. Abbreviated rept. [1959] 7p. (1 fig. omitted).
Order from LC or SLA mi$1.80, ph$1.80 59-22377

Trans. of Akad[emiya] Nauk SSSR. Okeanograficheskaya Komissiya. Trudy, 1958, v. 3, [p. 118]-121.

The investigations were conducted principally along three lines: spawning and development of fishes, the ichthyofauna of the abyss, and the ichthyofauna of the oceanic pelagial.

Rukavishnikov, B. I.
THE POSSIBILITY OF AVOIDING THE DEVELOPMENT OF RESISTANCE TO CHEMICAL POISONS IN INSECTS AND PARASITES (Vozmozhnosti Predotvrashcheniya Razvitiya Ustoychivosti k Yadokhimikatam sredi Vrednykh Nasekomykh i Kleshchey). Oct 59 [10]p. RTS no. 1086.
Order from LC or SLA mi$1.80, ph$1.80 59-22587

Trans. of Zashchita Rastenii ot Vrediteley i Bolezney (USSR) 1958, v. 3, no. 5, p. 51-53.

CHEMISTRY

*AKADEMIYA NAUK SSSR. OTDELENIYE KHIMICHESKIKH NAUK. IZVESTIYA, 1959, NO. 9, P. 1515-1693 (News of the Academy of Sciences of the USSR, Department of Chemical Sciences). [1959] 1v. [SOV]-62-59-9-(1-40)/40.
Order from OTS $0.70, $4.00/6 mo. PB 141 055T-22
Foreign $0.95, $5.50/6 mo.

Consists of abstracts in English.

PART OF THE DETAILED SYLLABUS IN CHEMISTRY, MOSCOW STATE U. [1959] [87]p. M387.
Order from LC or SLA mi$4.80, ph$13.80 59-22455

Consists of description of detailed syllabuses for selected courses in chemistry.

*ZHURNAL OBSHCHEY KHIMII (USSR) 1959, V. 29, (Journal of General Chemistry). [1959]
Order from OTS $1.40, $7.50/6 mo.
Foreign $1.65, $9.00/6 mo.

No. 8, p. 2465-2805, PB 141 075T-22
No. 9, p. 2811-3156, PB 141 075T-23

Consists of abstracts in English.

REFERATIVNYY ZHURNAL. KHIMIYA (USSR) 1959, NO. 16, ABSTRACTS 56032-59554 (Soviet Abstracts. Chemistry). 13 Jan 60, 420p. JPRS: 2054-N.
Order from OTS $4.25 60-11100

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia, excluding the USSR.

USPEKHI KHIMII (USSR) 1959, V. 28, NO. 9, P. 1011-1134 (Progress of Chemistry). [1959] [12]p. SOV-74-28-9-(1-7)/7.
Order from OTS $0.50, $3.00/6 mo. PB 141 070T-22
Foreign $0.75, $4.50/6 mo.

Consists of abstracts in English.

Analytical Chemistry

Alimarin, I. P. and Rudnev, N. A.
THE USE OF RADIOACTIVE ISOTOPES IN ANALYTICAL CHEMISTRY. 21 Sep 59, 8p.
Order from LC or SLA mi$1.80, ph$1.80 60-10946

Trans. of *Z[hurnal] Anal[iticheskoy] Khim[ii] (USSR) 1957, v. 12 [no. 5] p. 587-592.

A survey, primarily devoted to Russian contributions.

Fleury, Paul and Recoules, André.
CHEMICAL DETERMINATION OF INOSITOL IN THE PRESENCE OF GLUCIDES. [1959] 15p. 12 refs.
Order from SLA mi$2.40, ph$3.30 60-10639

Partial trans. (p. 258-264) in manuscript of Societe de Chimie Bioligique. Bulletin (France) 1949, v. 31 [no. 2] p. 256-264.

Gel'man, N. E., Korshun, M. O. and others.
ANALYSIS OF ORGANOFLUORINE COMPOUNDS. SIMULTANEOUS MICRODETERMINATION OF FLUORINE AND NITROGEN IN ORGANIC COMPOUNDS. 5 Oct 59, 5p. 9 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10908

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 123, no. 3, p. 468-470.

Razuvayev, G. A. and Grayevskiy, A. I.
THE DETERMINATION OF ORGANOALUMINUM COMPOUNDS BY THE INDICATOR METHOD. [1959] 4p.
Order from ATS $5.00 ATS-15L36R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1959, v. 128, no. 2, p. 309-311.

Schildknecht, H. and Mannl, A.
ICE ZONE REFINING; NEW METHODS FOR CONCENTRATING MINUTE AMOUNTS OF MATERIAL FROM AQUEOUS SOLUTION. [1959] [13]p. 16 refs. A. C. S. I. L. Trans. no. 1065.
Order from SLA mi$2.40, ph$3.30 60-10724

Trans. of Angewandte Chemie (West Germany) 1957 [v. 69] no. 20, p. 634-638.

The principle of the familiar process of zone refining of inorganic or organic solids, which is used for depositing or concentrating small amounts of subsidiary constituents at one end of the material being investigated, has been applied to liquids. Work has so far been limited to water and benzene. The liquids are first frozen and the resulting "ice" is then melted in migrating zones. The results are presented of the concentration of ascorbic acid, quinones, aldehydes, enzymes, bacteria, bacteriophages and plankton in the aqueous phase and of thiophenes in benzene. (Author)

Toropova, V. F. and Yakovleva, G. S.
AMPEROMETRIC TITRATION OF THE PHOSPHATE ION (Amperometricheskoye Titrovaniye Fosfat-iona) tr. by D. A. Sinclair. 1959, 10p. Technical Trans. 827.
Order from NRCC NRC TT-827

Trans. of Zhur[nal] Anal[iticheskoy] Khim[ii] (USSR) 1946, v. 1, No. 5/6, p. 290-294.

Methods were developed for the amperometric determination of water-soluble phosphoric acid in superphosphates. It was found that in certain cases insoluble phosphate precipitates ($MgNH_4PO_4$, $CaHPO_4$) may be directly back-titrated amperometrically by a solution of lead acetate. The possibility of amperometric titration of phosphates by salts of trivalent iron in a pH range of 3 to 4 was demonstrated in principle. (Author)

*ZHURNAL NEORGANICHESKOY KHIMII (USSR) 1959, V. 4, NO. 10, P. 2185-2415 (Journal of Inorganic Chemistry). [1959] 1v. [SOV]-78-4-10-(1-40)/40.
Order from OTS $0.80, $4.50/6 mo. PB 141 074T-20
Foreign $1.05, $6.00/6 mo.

Consists of abstracts in English.

Abrikosov, N. Kh. and Bankina, V. F.
STUDY OF THE COMPOSITION DIAGRAM OF THE SYSTEM Bi-Te. 26 Aug 58, 9p. (7 figs. omitted) 18 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10938

Trans. of [Zhurnal Neorganicheskoy Khimii] (USSR) 1958, v. 3, no. 3, p. 659-667.

Beside the Bi_2Te_3 three intermediary phases were found in the system Bi-Te: (1) a phase, corresponding to the composition of the mineral hedleite, $Bi_{14}Te_6$, caused by peritectic reaction at 312°; (2) a phase (B) caused by peritechtic reaction at 420° on the basis of Bi_2Te and the extension of solid solution in the limits of 22.5-26% of tellurium; and (3) a phase (V) caused by a homogeneous area of solid solution within the limits of concentration of 34-42.5% of tellurium. Phase B and V are formed by a peritectic reaction at 540°. The solubility of tellurium in the compound Bi_2Te_3 is about 1%; the solubility of bismuth has not been discovered.

Cherkashyn, Ye. Ye., Gladyshevs'kyy, Ye. I. and Kryp'yakevych, P. I.
COMPOUNDS OF TRANSITION METALS AND BERYLLIUM, SILICON, GERMANIUM AND TIN. [1958] 4p. 5 refs.
Order from LC or SLA mi$1.80, ph$1.80 59-10890

Trans. of Lvov U. [Dopovidi ta Povidomlennya] (USSR) 1957, v. 7, pt. 3 [p. 180-188].

Tertian, Robert, Papée, Denis, and Charrier, Jacques.
AN X-RAY STUDY OF THE TRANSITION ANHYDRIDES OF ALUMINA. 22 June 54, 3p. (refs. omitted).
Order from SLA mi$1.80, ph$1.80 60-10180

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1954, v. 238 [no. 1] p. 98-99.

Observations are presented which were made during previous experiments on the origin of the transition anhydrides of alumina.

Organic Chemistry

MANUFACTURING PROCESS FOR FAST RED SALT GL. 28 Nov 58, 3p.
Order from RIS $10.50 RIS rept. 35087

Trans. of mono. from I. G. Farbenindustrie A. G., Offenbach (PB 74 026).

Arppe, A. E.
THE OXIDATION PRODUCTS OF FATS, II, [1959] 9p. 1 ref.
Order from SLA mi$1.80, ph$1.80 60-10836

Trans. in manuscript of [Justus Liebigs] Ann[alen der] Chem[ie] (Germany) 1861, v. 120, p. 288-295.

Claesson, S., Gehm, R., and Kern, W.
ON METHYL-SUBSTITUTED POLYPHENYLENES. Rept. no. 3. [1959] [28]p. 38 refs.
Order from SLA mi$2.70, ph$4.80 60-10866

Trans. of Makromolekulare Chemie (Switzerland) 1951, v. 7, no. 1, p. 46-61.

This paper described experiments for the purpose of preparing soluble, rodlike molecules, the para-linked methyl-substituted polyphenylenes. The Ullmann reaction between 4. 4'-di-iodo-3. 3'-dimethyl-diphenyl and copper powder was carried out under varying conditions. The resulting soluble methylated polyphenylenes were fractionated, and ultracentrifugal and osmotic pressure measurements indicated molecular weights up to 300, 000 for the highest molecular fractions. Cryoscopic measurements of viscosity, sedimentation and diffusion are discussed with regard to the shape of these molecules. It appears that the molecules obtained under these conditions are neither rigid nor rod-shaped. Side reactions probably give meta-linked or branched products. (Author)

Ferkhmin, A. A.
ULTRAVIOLET ABSORPTION SPECTRA OF MIXTURES OF NUCLEOTIDES AND AMINO-ACIDS. [1959] [4]p. 2 refs. M 186.
Order from LC or SLA mi$1.80, ph$1.80 59-19080

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1948, v. 59, p. 945-[947].

Fischer, Emil and Freudenberg, Karl.
ON THE CARBOMETHOXY-DERIVATIVES OF PHENOL-CARBOXYLIC ACIDS AND THEIR USE FOR SYNTHESES, IV. [1959] 38p. 10 refs.
Order from SLA mi$3.00, ph$6.30 60-10775

Trans. of [Justus Liebigs] Ann[alen der Chemie] (West Germany) 1910 [v. 371, no. 3] p. 32-68.

Hirve, N. W. and Rana, K. N.
CHLORALCHLOROSALICYLAMIDES AND THEIR METHYL ETHERS. [1959] 9p.
Order from SLA mi$1.80, ph$1.80 60-10534

Partial trans. (p. 1351-1353) in manuscript of Chem[iscne] Ber[ichte] (Germany) 1939, v. 72B, p. 1346-1353.

Ioffe, I. L., Levin, Ya. S., and Kronich, I. G.
INITIATION OF BENZENE OXIDATION (Indutsirovaniye Reaktsii Okisleniya Benzola). Oct 59, [10]p. 5 refs. RTS no. 1179.
Order from LC or SLA mi$1.80, ph$1.80 59-22166

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1954, v. 28, no. 8, p. 1395-1398.

Iof.e, I. L., Levin, Ya. S. and others.
TH3 KINETICS AND MECHANISM OF THE V/POUR PHASE PARTIAL OXIDATION OF BENZNE BY MOLECULAR OXYGEN (Issledovaniya Kinetiki i Mekhanizma Parofaznogo Nepolnogo Okisleniya Benzola Molekulyarnym Kislorodom). Oct 59 [16]p. 7 refs. RTS no. 1178.
Order from LC or SLA mi$2.40, ph$3.30 59-22593

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1954, v. 28, no. 8, p. 1386-1394.

It has been shown that the kinetics in the range studied are those of a degenerate explosion and can be described by Semenov's equations $\xi = Ne^{\varphi t}$ and $\xi = \xi_{max.} \frac{1}{1 + e^{-\varphi\theta}}$

The dependence of reaction rate on benzene : oxygen ratio and oxygen partial pressure have been established. The retarding effect of silica surfaces on the homogeneous oxidation of benzene has been demonstrated. It has been shown that heterogeneous complete oxidation of benzene occurs on silica surfaces. (Author)

Loos, S. M. and Polyakov, M. V.
INVESTIGATION INTO THE KINETICS AND MECHANISM OF OXIDATION OF METHYL ALCOHOL IN THE ABSENCE OF A CATALYST, 1 (Issledovaniye Kinetiki i Mekhanizma Okisleniya Metilovogo Spirta v Otsutstviye Katalizatora. 1). Oct 59 [11]p. 12 refs. RTS no. 1183.
Order from LC or SLA mi$2.40, ph$3.30 59-22595

Trans. of Ukrainskiy Khimicheskiy Zhurnal (USSR) 1958, v. 24, no. 2, p. 190-197.

The kinetics of oxidation of methanol was studied by the method of fractional calorimetry in a glass vessel without a catalyst in the temperature range 420°C to 469°C and at initial pressures of 300 to 600 mm Hg. On the basis of kinetic data, the apparent order and energy of activation was calculated. It was established that oxidation of methyl alcohol follows the laws of radical chain homogeneous reactions, with the walls of the vessel acting as a catalyst. In the absence of a

catalyst in the initial stages of the process, in agreement with Orlov's theory, only formaldehyde and hydrogen are formed. The formation of formaldehyde is not tied to exothermic reactions, since the formation of CH_2O is not accompanied by a temperature rise of the reacting mixture or of the surface of the walls of the vessel. The temperature rise observed results from exothermic oxidation of the products of degradation, of methanol into water, carbon monoxide and carbon dioxide gas. (Authors' conclusion)

Knunyants, I. L., Sterlin, R. N. and others.
REACTIONS OF PERFLUOROVINYLMAGNESIUM HALIDE. Rept. no. 8 on Reactions of Fluoro-olefins. 9 Sep 59, 4p. 10 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10947

Trans. of *Akademiya Nauk SSSR. Otdeleniye Khimicheskikh Nauk. Izvestiya, 1958, no. 11, p. 1345-1347.
Another translation is available from ATS $6.80 as ATS-90L29R [1959] 4p.

Magnesium was found to react almost quantitatively if it is activated with ethyl bromide and the reaction is carried out in ether at -30 to -20°. By decomposing the reaction mass with diluted sulfuric acid 70% of trifluoroethylene was obtained. Under the above conditions perfluorovinyl bromide and perfluorovinyl chloride do not react with magnesium and are recovered from the reaction in an unchanged state. Perfluorovinyl bromide could be reacted with the formation of an organomagnesium compound in a tetrahydrofurane medium with a yield of $CF_2 = CFMgBr$ up to 45%. In the latter case, the activation of magnesium with ethyl bromide was not even necessary. The basicity of the solvent causes the formation of R_fMgI as a result of its stabilization as a complex of the type R_2O
R_fMgI is correct. In order to confirm the formation R_2O
of a new type of organomagnesium compound, $CF_2 = CFMgI$ was reacted with solid carbon dioxide in an ether solution at -40°; then the reaction mass was decomposed with a 2N sulfuric acid solution yielding 40% of perfluoroacrilic acid. The treatment of the ether solution of perfluoroacrilic acid with a calculated amount of diazomethane yielded a methyl ester of perfluoroacrilic acid.

Kononova, M. M. and Belchikova, N. P.
TESTING THE CHARACTERISTICS OF SOIL HUMIC ACIDS BY SPECTROPHOTOMETRY (Opyt Kharakteristiki Prirody Pochvennykh Guminovykh Kislot s Pomoshchyu Spectrofotometrii). [1959] [7]p. 9 refs.
Order from LC or SLA mi$1.80, ph$1.80 59-22352

Trans. of Akademiya Nauk SSSR. Doklady, 1950, v. 72, no. 1, p. 125-128.

In order to clarify certain general laws of humus formation, simultaneously with the study of the optical properties of humic acids in soils the quantitative content of the main groups of humus substances was determined using Tyurin's method, which consists of extracting humus substances from the soil with an 0.1-normal solution of NaOH and diluting them by oxidizing with H_2SO_4 to produce groups of humic acids and "fulvo-acids". The curves of light attentuation by humate solutions are similar for all the soils investigated, with a maximum in the blue portion of the spectrum (wavelength 465 millimicrons) and a minimum in the red portion (wavelength 726 millimicrons), which points to their similar nature. The value of the coefficient of light attenuation, E, varies within broad limits depending on the soil type, with the differences being particularly noticeable in the short-wave range (the blue portion of the spectrum). From podzolic to gray-podzolic soils and then to chernozems the humic acids become optically more dense. In sod-podzolic soil from oak forest the C_2/C_ϕ proportion is less than 0.5, which indicates the considerable predominance of fulvo-acids in the composition of these groups. The fulvo-acids dominate also in the brown soil of the North Caucasus in beech forest, in which the proportion $C_2/C_\phi = 0.57$, and in krasnozems in forest and fern regions. In steppe chernozems the quantity of humic acids is considerably above the quantity of fulvo-acids ($C_2/C_\phi = 2.1$). Gray podzolic forest soils occupy a mean position between sodpodzolic soils and chernozem. Comparison of data on optical density of humic acids and the composition of humus shows that using both indexes soils can be arranged in two series: the lowest optical density is characteristic of humic acids of those soils in which they are relatively sparse in comparison to the fulvo-acids (sod-podzolic soils, brown forest soil, and krasnozems). In those soils in which the largest quantity of humic acids is found these very acids are more optically dense (chernozems). Consequently a change in the conditions of soil formation (plant cover, trend of biological activity, climatic conditions, soil chemism, etc) in the soil series from sod-podzolic to gray forest soils and then to the chernozems leads not only to a change in the composition of the humus (an increase in the quantity of humic acids and a drop in the fulvo-acids), but also to a change in the nature of the humic acids: the humic acids in sod-podzolic soils are chemically simpler than those in chernozems. This is undoubtedly connected with their different participation in soil-formation processes.

Korniyenko, T. P. and Polyakov, M. V.
A STUDY OF THE EFFECTS OF THE REACTOR WALLS ON THE OXIDATION OF METHANE (Izucheniye Vliyaniya Stenok Reaktora na Okisleniye Metana). Oct 59 [9]p. 11 refs. RTS no. 1182.
Order from LC or SLA mi$1.80, ph$1.80 59-22407

Trans. of Ukrainskiy Khinicheskiy Zhurnal (USSR) 1958, v. 24, no. 2, p. 182-189.

Kotov, Ye. I. and Terenin, A. N.
INVESTIGATION OF ULTRAVIOLET AND VISIBLE ABSORPTION SPECTRA OF AROMATIC AMINES ADSORBED ON SPECIFIC CENTERS OF SILICA-ALUMINA CATALYSTS [Issledovaniye Ul'trafioletovykh i Vidimykh Spektrov Pogloshcheniya Aromaticheskikh Aminov, Adsorbirovannykh na Spetsificheskikh Tsentrakh Alyumosilikatnykh

Katalizatorov]. [1959] 5p.
Order from ATS $6.25 ATS-00L36R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1959, v. 124, no. 4, p. 865-868.

Michaelis, A. and Siebert, H.
THE EFFECT OF THIONYLCHLORIDE ON ACID AMIDES, tr. by P. M. M. 14 Nov 50, 6p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-10533

Trans. in manuscript of [Justus Liebigs] Ann[alen] d[er] Chem[ie] (Germany) 1893, v. 274, p. 312-315.

Migliardi, C.
A GENERAL METHOD OF PREPARATION OF POLYPEPTIDES CONTAINING PROLINE, AND ITS APPLICATION IN OBTAINING SOME NEW DIPEPTIDES. [1959] 7p. 6 refs.
Order from SLA mi$1.80, ph$1.80 60-10842

Trans. of Archivio di Scienze Biologiche (Italy) 1941, v. 27, p. 327-332.

Mndshoyan, A. L. and Aroyan, A. A.
BISCHLOROMETHYLATION OF ALKOXYBENZENES AND THE APPLICATION OF THE RESULTING PRODUCTS TO CERTAIN SYNTHESES. [1959] 9p.
Order from ATS $8.25 ATS-31L35R

Trans. of Akad[emiya] Nauk Armyan[skoy] SSR [Yerevan]. Izvest[iya]. Ser[iya] Khim[icheskikh] Nauk, 1957, v. 10, no. 3, p. 203-212.

Nesmeyanov, A. N., Perevalova, E. G. and others.
THE SYNTHESIS OF METHYL FERROCENE (Sintez Metilferrotsena) tr. by J. W. Palmer. Feb 59 [4]p. 9 refs. Library Trans. no. 802; M 379.
Order from LC or SLA mi$1.80, ph$1.80 59-22447

Trans. of Akad[emiya] Nauk [SSSR]. Dokl[ady] 1958, v. 121, no. 1, p. 117-118.

Recently, various mono- and di-alkyl ferrocenes have been described which were obtained by direct alkylation of ferrocene in the presence of aluminium chloride (Akad. Nauk SSSR Doklady 109: 543, 1956; 114, 800, 1957; 117: 92, 1957; and J. Org. Chem. 22: 1016, 1957), or by reduction of the corresponding ketones (Akad. Nauk SSSR Doklady 107: 262, 1956) and acids (Akad. Nauk SSSR Doklady 112: 439, 1957). The present paper describes the synthesis of methyl ferrocene by two methods: by lithium aluminium hydride reduction of the methyl ester of ferrocene carboxylic acid (yield 83%), and by sodium amalgam methiodide reduction of the NN[1]-dimethylaminomethyl ferrocene (yield 94%). In the latter case, as a side product of the reaction, a small quantity of the simple ether of ferrocenyl carbinol forms. $(C_5H_5FeC_5H_4CH_2)_2O$. (Author)

Nesmeyanov, A. N., Borisov, A. Ye. and others.
SYNTHESES OF ORGANO-TIN COMPOUNDS FROM ORGANO-MERCURY COMPOUNDS AND STANNOUS SALTS IN INERT SOLVENTS. 22 Sep 59, 5p. 3 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10987

Trans. of *Akademiya Nauk SSSR. Otdeleniye Khimicheskikh Nauk. Izvestia [1959] no. 2, p. 263-266.
Another translation is available from ATS $7.00 as ATS-12L33R [1959] 4p.

An investigation was made of the interaction between the geometrical isomers of dipropanyl mercury, diisopropanyl mercury, diethyl mercury, diphenyl mercury, di-p-tolyl mercury, di-o-tolyl mercury, and di-a-naphthyl mercury, with stannous, bromide, and chloride. The following reaction products were obtained by the interaction of diisopropanyl mercury with stannous bromide in petroleum ether at room temperature, and upon heating to 65°; stannous diisopropanyldibromide, b. p. 102° (9 mm.); n_D^{20} 1.5667; stannous tetraisopropanyl, b. p. 65-66° (8 mm.); n_D^{20} 1.5110; mercury isopropanyl bromide and metallic mercury. The geometrical isomers of dipropanyl mercury react with stannous bromide, yielding stannous dipropanyldibromide and metallic mercury only. The reaction product of diethyl mercury with stannous chloride revealed stannous diethylchloride and ethyl mercury chloride only. The reaction of diphenyl mercury with stannous chloride at various temperature conditions yielded invariably stannous triphenylchloride only which is formed apparently after passing through the stage $(C_6H_5)_2SnCl_2$ as follows: $2(C_6H_5)_2SnCl_2 + Hg(C_6H_5)_2 \rightarrow 2(C_6H_5)_3SnCl + HgCl_2$. The reaction with stannous bromide is similar, only the stannous triphenylbromide yield is smaller. Di-p- and di-o-tolyl mercury react with stannous chloride, yielding only di-p- and di-o-stannoustolyldichloride; the reaction products did not contain any toluene. The reaction of di-a-naphthyl mercury with stannous chloride produces di-a-naphthyl tin dichloride only. Attempts to synthesize aromatic compounds of tin with such substituents in the benzene nucleus OH, $N(CH_3)_2$ were unsuccessful.

Petrov, A. A.
THE EFFECT OF ACID OR BASIC PROPERTIES OF REAGENTS (OR CATALYSTS) ON THE COURSE AND THE MECHANISM OF ADDITION TO UNSYMMETRICAL a-OXIDES, tr. by G. Rudakoff. 16 Nov 59, 26p. 64 refs.
Order from SLA mi$2.70, ph$4.80 60-10920

Trans. of Chemische Technik (East Germany) 1954, v. 6, no. 12, p. 639-644.

It becomes possible to explain the most important facts in the field of the chemistry of organic oxides, and to systematize them, on the basis of conceptions on different mechanisms of conversion of the oxides in acid and alkaline media, that is to say if one starts from the idea that in the acid medium, there are first formed oxonium compounds. (Author)

Shemyakin, M. M., Kolosov, M. N. and others.
A STUDY OF THE METHODS OF SYNTHESIZING RING A OF TETRACYCLINES; A METHOD OF INTRODUCING THE N, N-DIMETHYLGLYCINE RESIDUE INTO THE CYCLOHEXANONE RING. [1959] 6p.
Order from ATS $6.50 ATS-36L36R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1959, v. 128, no. 4, p. 744-747.

Sheverdina, N. I., Paleyeva, I. Ye. and others.
CRYSTALLINE ORGANO CADMIUM COMPOUNDS OF THE RCdX CLASS IN THE ALIPHATIC SERIES [Kristallicheskiye Kadmiyorganicheskiye Soyedineniya Klassa RCdX v Alifaticheskom Ryadu]. 23 Sep 59, 4p. 4 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10909

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 125, no. 2, p. 348-[350].

Organo-cadmium compounds of a mixed type were formed and separated on the basis of the reaction between dialkyl cadmium and cadmium salts according to the formula: $R_2Cd + CdX_2 \longrightarrow 2RCdX$. This reaction was carried out in an absolute alcohol medium with the use of anhydrous cadmium halides. A cadmium halides suspension was used. The mixed organo-cadmium compounds were finely crystallized, infusable (but softening above 100°) powders which decomposed energetically with water or alcohol. They are oxidized by the air oxygen but do not ignite spontaneously. All compounds of the ethyl series are insoluble in aromatic hydrocarbons, hexane and ether, except n-butyl cadmium bromide which dissolves in ether. The formation of corresponding stable complexes (for instance with ether or dioxane) was not observed. The inter-reaction of the individual organo-cadmium compounds with halogen anhydrides of acids takes place as follows: $C_2H_5CdX + C_6H_5COX \longrightarrow C_6H_5CO \cdot C_2H_5$.

Sheynker, A. P., Yakovleva, M. K. and others.
MECHANISM OF THE LOW-TEMPERATURE POLYMERIZATION OF MONOMERS UNDER THE INFLUENCE OF GAMMA RAYS [O Mekhanizme Nizkotemperaturnoy Polimerizatsii Monomerov pod Deystviyem Gamm-Izlucheniya]. [1959] 4p.
Order from ATS $5.50 ATS-16L36R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1959, v. 124, no. 3, p. 632-634.

[Shuykin, L. N.] Bel'skiy, L. [F.] and Karakhanov, [P.] A.
THERMAL ISOMERIZATION OF 2-METHYL-4, 5-DIHYDROFURAN TO METHYL-CYCLOPROPYL-KETONE. 19 Oct 59, 3p. 2 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10906

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 125, no. 5, p. 1051-1052.

The isomerizations of α-alkyl substituted 2, 3-dihydrofurans with the alkyl group situated at the double bond was investigated. 2-methyl-4, 5-dihydrofuran isomerizes at 475 to 500° into methylcyclopropyl-ketone. This indicates a splitting of the C-O bond 1, 5 during the isomerization of the dihydrofuran ring with the subsequent formation of a new bond between the C-atoms 3, 5 and of a keto group in the side chain. Unlike the isomerization of 2, 3-dihydrofuran into cyclopropanaldehyde the isomerization of 2-methyl-4, 5-dihydrofuran into methylcyclopropyl-ketone is irreversible. The latter does not change back into 2-methyl-4, 5-dihydrofuran at 475 to 500°.

Takamisawa, A.
PREPARATION OF α-SODIOFORMYL-β-ALKOXY-PROPIONITRILE. [1959] 3p.
Order from LC or SLA mi$1.80, ph$1.80 60-10930

Trans. of Japanese patent 3924 (1955) (permit 28-4945) appl. 20 Mar 53, pub. 9 June 55.

The method is based on the reaction between acrylonitrile and alkyl formate plus metallic sodium (or metallic potassium). The basic reaction is

$$CH_2 = CHCN + HC(=O)(OR) \longrightarrow ROCH_2 \cdot \underset{\underset{CHONa}{|}}{C} \cdot CN,$$

where R is a low grade alkyl radical. α-Sodioformyl-β-alkoxypropionitrile may be alkylated to form cis- or trans-isomer of α-alkoxymethylene-β-alkoxy-propionitrile. These may be transformed into 2-methyl-4-amino-5-acetaminomethyl pyrimidine, by reaction with acetamidine, acetimido-ether, etc. Five examples are given.

Takamizawa, Akira, Ikawa, Kenji, and Narisada, Masayuki.
SYNTHESES OF PYRIMIDINE DERIVATIVES. VII. 2-ALKOXYMETHYLENE-3-ALKOXYPROPIONITRILES AND ITS ISOMERS. [1959] 10p.
Order from SLA mi$1.80, ph$1.80 60-10980

Trans. of [Yakugaku Zasshi] (Japan) 1958, v. 78, no. 6, p. 632-637.

It had earlier been reported that the alkylation of 2-sodioformyl-3-alkoxypropionitrile (II or III) with dialkyl sulfate afforded cis- and trans-2-alkoxymethylene-3-alkoxypropionitrile (IV, V, and VI) but later examinations revealed that the substances obtained in this reaction were still impure. Further purifications showed that besides the cis and trans isomers of the foregoing nitriles, another isomer of low boiling point has been formed. This new isomer was found to have C=C bond from the Raman spectra although this point was not clear from its infrared spectrum. Ozonolysis of this isomer afforded formaldehyde, proving the presence of endomethylene group. Catalytic reduction resulted in the rapid absorption of one mole of hydrogen to form 2-dialkoxymethyl-propionitrile (X and XI). The latter was confirmed from its infrared spectrum and formation of 2, 5-dimethyl-4-aminopyrimidine (XII) by condensation with acetamidine. These experimental results have proved that the new-type isomer obtained by the foregoing reaction is 2-dialkoxy-methylacrylonitrile (VII, VIII, and IX). (Author) (See also 60-10952)

Takamizawa, Akira, Ikawa, Kenji, and Narisada, Masayuki.
[SYNTHESES OF] PYRIMIDINE DERIVATIVES. VIII. SYNTHESIS OF 2-DIALKOXYMETHYL-3-ALKOXYPROPIONITRILES. [1959] 11p. 3 refs.
Order from SLA mi$2.40, ph$3.30 60-10969

Trans. of [Yakugaku Zasshi] (Jepan) 1958, v. 78, no. 6, p. 637-643.

Application of alcohol to cis- and trans-2-alkoxymethylene-3-alkoxypropionitrile and 2-dialkoxymethyl-acrylonitrile, with acid or alkali as a catalyst, was found to effect facile addition of the alcohol to form the acetal-type compounds, 2-dialkoxymethyl-3-alkoxypropionitriles, evidenced by their elemental analytical values and infrared absorption spectra. In this reaction, some 2-dialkoxymethyl-acrylonitriles formed and transetherification of the starting 2-alkoxymethylene-3-alkoxypropionitriles and the formed 2-alkoxymethylene-3-alkoxypropionitriles was observed. (See also 60-10980)

Takamizawa, Akira, Ikawa, Kenju, and Narisada, Masayuki.
SYNTHESES OF PYRIMIDINE DERIVATIVES. IX. STUDIES ON THE MUTUAL CONVERSION OF 2-DIALKOXYMETHYL-3-ALKOXYPROPIONITRILES, 2-DIALKOXYMETHYL-ACRYLONITRILES AND 2-ALKOXYMETHYLENE-3-ALKOXYPROPIONITRILES. 29 Oct 59, 7p. 6 refs.
Order from SLA mi$1.80, ph$1.80 60-10978

Trans. of [Yakugaku Zasshi] (Japan) 1958, v. 78, no. 6, p. 643-646.

Formation of 2-dialkoxymethyl-acrylonitrile, formed together with 2-alkoxymethylene-3-alkoxypropionitrile by the alkylation of 2-sodioformyl-3-alkoxypropionitrile with dialkyl sulfate, was revealed to result by the catalytic effect of unreacted dialkyl sulfate on the 2-alkoxymethylene-3-alkoxypropionitrile first formed. This catalytic reaction is also effected, besides the dialkyl sulfate, by concentrated sulfuric acid, p-toluene-sulfonic acid, H acid, and ammonium sulfonate. When a few drops of concentrated sulfuric acid is added to 2-dialkoxymethyl-3-alkoxypropionitrile and this is submitted to low-pressure distillation at 100° and 30 mm. Hg., alcohol liberates immediately to form 2-alkoxymethylene-3-alkoxypropionitrile, while elevation of the bath temperature to around 170° results in the formation of 2-dialkoxymethyl-acrylonitrile. It follows, therefore, that the choice of reaction conditions will easily afford 2-dialkoxymethyl-3-alkoxypropionitrile, 2-dialkoxymethylene-3-alkoxypropionitrile, or 2-dialkoxymethyl-acrylonitrile. (See also 60-10969)

Takamizawa, Akira, Ikawa, Kenji, and Tori, Kazuo.
SYNTHESES OF PYRIMIDINE DERIVATIVES. X. STUDIES ON THE SYNTHESES OF 2-METHYL-4-AMINO-5-ALKOXYMETHYLPYRIMIDINE AND 2-METHYL-4-AMINO-5-ACETAMIDOMETHYLPYRIMIDINE. [1959] 7p. 4 refs.
Order from SLA mi$1.80, ph$1.80 60-10979

Trans. of [Yakugaku Zasshi] (Japan) [1958] v. 78, no. 6, p. 647-651.

Reexaminations were made on the reaction of acetamidine with cis- and trans-2-alkoxymethylene-3-alkoxypropionitrile, 2-dialkoxymethyl-acrylonitrile, or 2-dialkoxymethyl-3-alkoxypropionitrile. It was thereby found that this reaction with 2-alkoxymethylene-3-alkoxypropionitrile in ethanol affords 2-methyl-4-amino-5-alkoxymethylpyrimidine while other two substances afforded 2-methyl-4-amino-5-acetamidomethylpyrimidine via 2,7-dimethyl-5,6-dihydropyrimido (4,5-d) pyrimidine. The same 2-methyl-4-amino-5-acetamidomethylpyrimidine is obtained by the reaction of 2-alkoxymethylene-3-alkoxypropionitrile in methanol or in the presence of sodium ethoxide. This reaction course was followed by ultraviolet absorption spectrum and it was revealed through this means that acetalization occurred first by the action of the alcohol on 2-alkoxymethylene-3-alkoxypropionitrile and this was followed by cyclization to a pyrimidine ring. (See also 60-10978)

Takamizawa, Akira, Hayashi, Sadao, and Tori, Kazuo.
SYNTHESES OF PYRIMIDINE DERIVATIVES. XI. INTERMEDIATES IN THE REACTION OF 2-DIALKOXYMETHYL-3-ALKOXYPROPIONITRILES WITH ACETAMIDINE. [1959] 9p. 4 refs.
Order from SLA mi$1.80, ph$1.80 60-10981

Trans. of [Yakugaku Zasshi] (Japan) 1958, v. 78, no. 10, p. 1166-1170.

Condensation of 2-dialkoxymethyl-3-alkoxypropionitrile (I, II) and acetamidine in ethanol affords 2-methyl-4-amino-5-acetamidomethylpyrimidine (VI) via 2,7-dimethyl 3,4-dihydropyrimido [4,5-d] pyrimidine (V) but during the course of this reaction, formation of a reaction intermediate with absorption maximum at around 275 mμ was detected through ultraviolet spectrum. Attempt was made to isolate this intermediate and to determine its structure but neither its picrate nor hydrochloride could be isolated and this reaction mixture decolorized bromine. By introduction of dry hydrogen chloride gas to this solution, ethyl 2-methyl-3,4-dihydro-5-pyrimidine-carboxylate (X) and 2-methyl-4-amino-5-alkoxymethylpyrimidines (VIII, IX) were obtained. Catalytic reduction of (X) over palladium-carbon gave its tetrahydro compound (XIII), which is obtained by similar reduction of the 4-chloro compound (XII). It was assumed from these experimental facts that the structure of this intermediate is 2-acetamidinomethylene-3-alkoxymethyl-propionitrile (III, III') which was thought to have been formed by condensation after the nitrile group had been converted to imido ester type by dry hydrogen chloride gas. This pyrimidine condensation and formation of a dihydropyrimidine ring by hydrochloric acid is considered to be a new type of reaction. (See also 60-10979)

Takamizawa, Akira, Tokuyama, Kanji, and Satoh, Hisao.
SYNTHESES OF PYRIMIDINE DERIVATIVES. XII. FURTHER STUDIES ON ALKYL-2-ALKOXYMETHYLENE-3-ALKOXYPROPIONATE. [1959] 11p. 5 refs.
Order from SLA mi$2.40, ph$3.30 60-10975

Trans. of [Yakugaku Zasshi] (Japan) 1959, v. 79, no. 5, p. 664-669.

Methylation of ethyl 2-sodioformyl-3-ethoxypropionate (VIII), obtained by formylation of ethyl 3-ethoxypropionate (VII), afforded ethyl 2-methoxymethylene-3-ethoxypropionate (IX) which was derived to ethyl 2-methoxyethoxymethyl-3-ethoxypropionate (X) and ethyl 2-methoxyethoxymethylacrylate (XI). It was found that a correlation similar to that in 2-alkoxypropionitriles described previously, existed among these three compounds. Both (IX) and (X) were found to react with acetamidine to form 2-methyl-4-hydroxy-5-ethoxymethylpyrimidine (XIII) in both cases, and there was no difference between the acetal and enol-ether compounds in this reaction, contrary to the case of the corresponding 3-alkoxypropionitriles reported before. (See also 60-10981)

Tokuyama, Kanji.
SYNTHESES OF PYRIMIDINE DERIVATIVES. XV. SYNTHESES OF β-SUBSTITUTED ACETALS OF PROPIONITRILE DERIVATIVES. [1959] 12p. 6 refs.
Order from SLA mi$2.40, ph$3.30 60-10974

Trans. of [Yakagaku Zasshi] (Japan) 1959, v. 79, no. 6, p. 814-819.

2-Substituted 2-dialkoxymethylpropionitriles and their enol ether derivatives with phenoxy and naphthyloxyl in their 2-position were prepared. Condensation of these compounds with acetamidine was carried out. It was concluded from this and previously obtained results that the pyrimidine compounds are formed in a good yield when the substituent in 2-position, either in 2-alkoxymethylene- or 2-dialkoxymethyl-propionitriles, is alkoxyl or amino, but that the yield is poor when the said substituent is aryl or acetamido group. The yield of pyrimidines from 2-hydrogenated compounds is intermediate of the former two. On the other hand, reaction of 2-diethoxymethyl-acrylonitrile (I) with p-nitroaniline or 2, 4-dinitroaniline was found to be specific in the formation of 2-p-nitroanilinomethylene-3-p-nitroanilinopropionitrile (XX) or 2-o, p-dinitroanilinomethylene-3-o, p-dinitroanilinopropionitrile (XXII). (See also 60-10975)

Tokuyama, Kanji.
SYNTHESES OF PYRIMIDINE DERIVATIVES. XVI. SYNTHESIS OF 2-ETHOXYMETHYLENE-3-ACETOXYPROPIONITRILE. [1959] 11p. 10 refs.
Order from SLA mi$2.40, ph$3.30 60-10973

Trans. of [Yakugaku Zasshi] (Japan) 1959, v. 79, no. 6, p. 819-824.

Reaction of 2-ethoxymethylene-3-actoxypropionitrile (VII) and acetamidine was carried out. The reaction in methanol afforded the anticipated 2, 7-dimethyl-5, 6-dihydropyrimido (4, 5-d) pyrimidine (V), while the same in ethanol unexpectedly afforded 2-methyl-4-amino-5-acetamidomethylpyrimidine (VI) and 2, 7-dimethyl-5, 6-dihydropyrimido (4, 5-d) pyrimidine (V), besides 2-methyl-4-amino-5-hydroxymethylpyrimidine (X). This reaction in ethanol, when carried out under a more drastic reaction conditions, produces only (VI). (See also 60-10974)

Tomita, Masao, Ueo, Shojiro, and others.
PREPARATION OF TRANS-3-ALKOXY-2-ALKOXYMETHYLENE-PROPANENITRILE. [1959] 6p.
Order from LC or SLA mi$1.80, ph$1.80 60-10928

Trans. of Japanese patent 5219 (1954) (permit 28-13701) appl. 29 Oct 51, pub. 21 Aug 54 (part of 26-14354).

To transform cis-propionitrile into the trans form, relatively strong alkali such as caustic alkali, alkali metal, alkaline earth metal, alkali salt of weak acids, alcolate of alkali metals, ammonium phenolate of alkali metals, etc., may be used singly or in mixtures. Furthermore, in the transformation of cis-nitrile into trans-nitrile, it is necessary that, besides alkali, an alcoholic aqueous acid radical be present. When alcohol is used, the alkoxy radical in the 2 position is replaced by a new alkoxy radical and the trans-type of nitrile is formed. The trans- type is stable, but the cis type is less stable. When allowed to stand, the cis form gradually changes into the trans form. The essence of this work is the transformation of cis-3-alkoxy-2-alkoxymethylene-propanenitrile (I) into the trans type by means of alkali, and does not include the selection of accelerator for the transformation. The starting material, the cis-nitrile, may be used by itself or in a mixture which produced the cis form. The product obtained by this procedure, namely trans-3-alkoxy-2-alkoxymethylene-propanenitrile-(I), is useful as an intermediate in synthetic work. When condensed with acetamidine, a good yield of 2-methyl-4-amino-5-acetamino-methylpyrimidine is obtained, which is useful as an intermediate in the synthesis of Vitamin B_1. Two examples are given in which the procedure is described in detail. (Four additional examples are given in translation 60-10927).

Tomita, Masao, Ueo, Shojiro, and others.
PREPARATION OF TRANS-3-ALKOXY-2-ALKOXYMETHYLENE-PROPANENITRILE. [1959] [8]p.
Order from LC or SLA mi$1.80, ph$1.80 60-10927

Trans. of Japanese patent 5376 (1954) (permit 28-13702) appl. 29 Oct 51, pub. 26 Aug 54 (part of 26-14354).

In essence, 3-alkoxy-propanenitrile-(I) is formylated in the presence of alkali metal to give 3-alkoxy-2-hydroxymethylene-propanenitrile-(I), which is then alkylated in the presence of water or aqueous solvent to give trans-3-alkoxy-2-alkoxymethylene-propanenitrile-(I). The aqueous solvent may be a nonreactive solvent for nitriles, hydrophobic solvents to which water is added, mixtures of water and hydrophilic solvents such as methanol, ethanol, propanol, and acetone, or a mixture of these with hydrophobic solvents. The type of solvent used does not affect the reactions. As alkylating agents, ordinary alkylators such as di-alkyl sulfates, arylsulfonic acid alkyl esters, diazoalkane, or alkyl halide may be used. The type of alkylating agent does not bear any relation to the reaction. The product, trans-3-alkoxy-2-alkoxymethylene-propanenitrile-(I) is an intermediate useful in synthetic work. When condensed with acetamidine, it forms 2-methyl-4-amino-5-acetamino-methylpyrimidine, which is a useful intermediate in the syn-

thesis of vitamin B_1. Four examples are given which show detailed applications of the process. Two additional examples are given in translation 60-10928.

Tomita, Masao, Uyeo, Shojiro and others.
SYNTHESES OF PYRIMIDINE DERIVATIVES. I. SYNTHESIS OF α-ALKOXYMETHYLENE-β-ALKOXYPROPIONITRILES. 23 Sep 59, 6p. 4 refs.
Order from SLA mi$1.80, ph$1.80 60-10952

Trans. of [Yakugaku Zasshi] (Japan) 1954, v. 74 [no. 7] p. 742-746.
Another translation is available from SLA mi$1.80, ph$1.80 as 59-15380 [1959] 2p.

The method of Chelinstev (Chem. Abstr. 40: 4069, 1946) of condensing α-acetoxymethylene-β-ethoxypropionitrile with acetamidine was improved by using an anhydrous solvent which increases the yield. (See also 60-10973)

Ulbrich, R.
NEW SOVIET PROCESS FOR THE SYNTHESIS OF POLYMERS: POLYRECOMBINATION. [1959] 3p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-10923

Trans. of Kunststoffe (West Germany) 1959, v. 49, no. 1, p. 23-24.

Urizko, V. I. and Polyakov, M. V.
INVESTIGATION OF THE INFLUENCE OF POTASSIUM TETRABORATE ON THE OXIDATION OF METHANE (Issledovaniye Vliyaniya Tetraborata Kalya na Okisleniye Metana). Oct 59 [8]p. 11 refs. RTS no. 1181.
Order from LC or SLA mi$1.80, ph$1.80 59-22406

Trans. of Ukrainskiy Khimicheskiy Zhurnal (USSR) 1958 v. 24, no. 2, p. 177-181.

Vinogradov, G. B.
PHASE-CHANGES IN ALKALINE EARTH SOAPS, tr. by Lionel Mote. [1959] 4p. 11 refs. M188.
Order from LC or SLA mi$1.80, ph$1.80 59-19082

Trans. of [Akademiya Nauk SSSR]. Doklady, 1947, v. 58, no. 1, p. 73-75.

Vorozhtsov, N. H. Jr. and Koptyug, V. A.
STUDY OF THE ISOMERIC TRANSFORMATIONS OF ALKYLNAPHTHALENES. I. ISOMERIZATION OF MONOMETHYLNAPHTHALENES [Izucheniye Izomernykh Prevrashcheniy Alkilnaftalinov. I. Izomerizatsiya Monometilnaftalinov]. [1959] 5p.
Order from ATS $8.00 ATS-94L35R

Trans. of *Zhur[nal] Obshchey Khim[ii] (USSR) 1959, v. 29, no. 5, p. 1541-1545.

Vysotskiy, Z. Z. and Polyakov, M. V.
THE OXIDATION OF METHANE (Issledovaniye Okisleniya Metana). Oct 59 [12]p. 15 refs. RTS no. 1180.
Order from LC or SLA mi$2.40, ph$3.30 59-22594

Trans. of Ukrainskiy Khimicheskiy Zhurnal (USSR) 1958, v. 24, no. 1, p. 46-54.

Wirz, C.
STUDY OF DIBASIC ACIDS OF THE $C_nH_{n-2}O_8$ SERIES. [1959] 50p. 22 refs.
Order from SLA mi$3.30, ph$7.80 60-10837

Trans. in manuscript of [Justus Liebigs] Ann[alen der] Chem[ie] (Germany) 1857, v. 104, p. 251-287.

Physical Chemistry

ZHURNAL FIZICHESKOY KHIMII (USSR) 1959, VOL. 33, NO. 9, P. 1907-2120 (Journal of Physical Chemistry). [1959] 1v. [SOV]-76-33-9-(1-37)/37.
Order from OTS $1.10, $6.00/6 mo. PB 141 072T-22
Foreign $1.35, $7.50/6 mo.

Consists of abstracts in English.

Adda, Yves.
KINETIC STUDY OF OXIDATION, NITRIDING, AND HYDROGENATION OF URANIUM. Doctoral thesis. [1959] 90p. (52 figs. 30 formulae omitted) 76 refs. CEA rept. no. 757.
Order from LC or SLA mi$4.80, ph$13.80
AEC-tr-3749

Trans. of Commissariat à l'Energie Atomique. Rapport (France) 1958, no. 757.

Experimental results indicate that the kinetics of attack on uranium by nitrogen are little affected by variations in the crystalline structure of the samples. The contrary is true for the kinetics of hydrogenation and oxidation, which seem to depend on the thickness of the metallic layer that has formed or on the thickness of metal destroyed by the reaction. The surface condition influences the kinetics of oxidation, nitriding and hydrogenation considerably. Certain treatments of the surface, principally electrolytic polishing, cause a protective effect when the samples are attacked by oxygen and hydrogen. Heating the samples under vacuum before the reaction eliminates this protection. The effect of electrolytic polishing can be due to an oxide film of low permeability to ions or to an atomic oxygen layer which has been chemically adsorbed. Finally, the kinetics of attack in a permanent system are characterized by linear curves in the nitriding and hydrogenation of uranium, and in the oxidation above 125°C. The existence of numerous mechanical faults in a compound obtained by dry corrosion of the metal permits an explanation of the disagreements between these experimental results and the rules which are based on the value

of the relation of the volume of the formed metallic compound to the volume of the metal which has given rise to the compound.

Arkharov, V. I.
CRYSTAL CHEMICAL TRANSORMATIONS IN THE REDUCTION OF IRON OXIDES (O Kristallokhimicheskikh Prevrashcheniyakh pri Vosstanovlenii Okislov Zheleza). 1959 [19]p. 3 refs. NRL Trans. no. 731.
Order from OTS $0.50 59-21039

Trans. of Soveshchaniye Instituta Met[allurgii] Ural'skogo Filiala Akad[emii] Nauk SSSR i Magnitogorskogo Met[allurgicheskogo] Kombin[ata] 1955. Trudy, p. 93-110.

The process of reduction of iron oxides (starting with a high degree of oxidation, hematite) is described by following the stages, which refer to the case of slow supply of the reducing substance. On the surface of the alpha Fe_2O_3 crystal, the reducing substance (molecules of CO) is absorbed. At separate small sections of the surface the reducing substance removes ions of oxygen. The local stresses increase to such a degree that the transformation of the hematite lattice into the gamma-oxide lattice begins. The removal of oxygen from the surface layer of the gamma-oxide results in a surplus of iron ions, which fill the holes (vacant sites) in the gamma-oxide lattice. Surplus iron ions, constantly present in the surface layer of magnetite, diffuse into the interior thanks to the continuing removal of oxygen by the reducing substance. The process reaches the point where hematite disappears in the center of the particle. Throughout the interior of the magnetite all the vacancies in the lattice become filled. The surplus of iron ions in the surface layer exceeds the level for which the more stable lattice of wuestite appears with a maximum concentration of oxygen. With increasing removal of oxygen from the surface layer, iron ions are liberated and move to the interior where they fill vacancies in the wuestite lattice. On the outside surface, the particles, thanks to continued removal of oxygen by the reducer, are constantly renewed increasing the concentration of iron in the wuestite. When the magnetite in the center of a particle disappears completely, further diffusion of surplus iron ions from the outside surface of the particle into the interior leads to a gradual filling of the holes in the wuestite lattice throughout the entire thickness of the particle. Throughout the volume of the wuestite all the lattice vacancies become filled. Further removal of oxygen by the reducer at the oxide surface leads to local strains in the wuestite lattice and forms a surplus of iron at the surface layer. The surplus of iron ions in the surface layer reaches a level at which the metallic lattice becomes more stable (the solid solution of "oxoaustenite" is saturated by oxygen). The next step is the growth of the small "islands" of the metallic phase. The maintenance of isomorphism at the wuestite-metal boundary is connected (on account of the large difference of specific volumes) with the appearance of large stresses at the interface.

Boreskov, G. K., Dzis'ko, V. A. and others.
THE INFLUENCE OF THERMAL TREATMENT ON THE STRUCTURE AND CATALYTIC ACTIVITY OF ALUMINUM OXIDE, tr. by G. Minkoff. 25 June 53, 10p. 4 refs. TL 1159; M266.
Order from LC or SLA mi$1.80, ph$1.80 59-19145

Trans. of [Zhurnal Fizicheskoy Khimii] (USSR) 1952, v. 26, no. 4, p. 492-499.

Dovedova, Ye. L.
THE SEPARATION OF A MIXTURE OF ADENOSINE-5'-, URIDINE-5'- AND GUANOSINE-5'-PHOSPHORIC ACIDS ON THE ANIONITE AB-16. [1959] [12]p. 21 refs.
Order from LC or SLA mi$2.40, ph$3.30 60-10948

Trans. of *Biokhimiya (USSR) 1959, v. 24, no. 3, p. 414-420.

Gasyuk, G. N. [Bol'shakov, A. G.] and others.
COEFFICIENTS OF MASS TRANSFER IN LIQUID PHASE. Communication no. 1. [1959] 8p. 7 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10918

Trans. of *Zhurn[al] Prikl[adnoy] Khim[ii] (USSR) 1958, v. 31 [no. 7] p. 1019-1025.

Results are given of a study on the work of a gaslifting apparatus, utilized as an absorption apparatus. The study of the mass transfer process was effected with the dynamic method, where gas and liquid enter and exit continuously the apparatus, i. e. under conditions of a stationary course, corresponding to the work of the industrial apparatus. The experimental results, treated by the method of the theory of similitude, can be used for the calculation and projecting of production apparatus.

Gel'd, P. V. and Kochnev, M. I.
VAPOUR PRESSURE OF SILICON MONOXIDE, tr. by A. V. Burbury. [1959] [10]p. (2 figs. omitted) 6 refs. M236.
Order from LC or SLA mi$1.80, ph$1.80 59-19127

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 61, no. 4, p. 649-652.

Glagoleva, A. A.
SPECIFIC WEIGHT OF AQUEOUS SOLUTIONS OF FORMIC AND ACETIC ACIDS, tr. by Lydia Venters. July 59, 6p. 35 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-3756

Trans. of Zhurnal Obshchey Khimii (USSR) 1945, v. 15, no. 3, p. 131-134.

The specific weight isotherm of the system $HCOOH-H_2O$ has two well defined maxima in the specific weight values at 20° and 25°. Stable systems of formic acid-water in solution have a larger specific weight value at 20° and 25°. The specific weight isotherm of the system $CH_3COOH - H_2O$ has also two maxima. In aqueous solutions of CH_3COOH as well as in solutions of HCOOH two stable systems are formed: $CH_3COOH . H_2O$ and $CH_3COOH . 2H_2O$. (Authors' conclusions)

Gonikberg, M. G.
DEVELOPMENT OF CHEMICAL STUDIES AT SUPER-HIGH COMPRESSIONS, tr. by A. L. Monks. 15 May 59, 16p. 9 refs.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-3705

Trans. of Akad[emiya] Nauk SSSR. Vestnik, 1957, v. 27, no. 2, p. 50-58.

A survey.

Goryunova, N. A. and Radautsan, S. I.
SOLID SOLUTIONS IN THE SYSTEM InAs-In_2Te_3 [Tverdyye Rastvory v Sisteme InAs-In_2Te_3]. [1959] [3]p. 9 refs. M567.
Order from LC or SLA mi$1.80, ph$1.80 59-22679

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 121, no. 5, p. 848-849.
Another translation is available from LC or SLA mi$1.80, ph$1.80 as 59-20138 [1959] 5p.

The following materials were used for the initial synthesis: 99.995% pure indium, arsenic after a double sublimation in a vacuum, and tellurium after a double sublimation in a vacuum and after a 12-fold purification by zone melting. Seven compositions of InAs-In_2Te_3 were synthesized and their properties analyzed. The seven were InAs, 9InAs·In_2Te_3, 4InAs·In_2Te_3, 3InAS·In_2Te_3, InAs·In_2Te_3, InAs·3In_2Te_3, and In_2Te_3. The thermic analysis results confirmed the X-ray analysis data that solid solutions with a zinc-blende structure are formed in the system InAs·In_2Te_3 at all concentration intervals.

Hara, Haruichi, Adachi, Akiyoshi, and Kurata, Naoji.
REACTION RATES OF CATALYTIC OXIDATION OF SULFUR DIOXIDE WITH VANDIUM PENTOXIDE CATALYSTS. [1959] 19p. 4 refs.
Order from SLA mi$2.40, ph$3.30 60-10445

Trans. of Kogyo Kagaku Zasshi (Japan) 1959, v. 62, no. 5, p. 669-672.

In the previous report (Kogyo Kagaku Zasshi 60: 1255, 1957) the rate measurement was conducted across both the positive and negative reaction regions by the differential reaction system using imported V_2O_3 catalyst, and the reaction equilibrium point was measured and this was compared with that obtained from the equilibrium constant and the reaction temperature. As a result, it was necessary to correct the measurement reaction temperature to an appreciable degree. The gas used was of only one type of composition. In the present case, similar measurements were conducted for various gas compositions using V_2O_3 catalyst made by our company (Japan Catlaytic Chemical Industries Co., Ltd., Fukita City) upon improving the reaction tube heating system, and it was found unnecessary to correct as described above. We also investigated the influence of charge-change of the sample catalyst. Furthermore, this time again we investigated the rate equation derived in a separate report (Ryussan 11: 228, 1958) using these measured values, and there was good fitting for various gas compositions. (Author) (Lectured at the Eleventh Annual Conference of the Chemical Society of Japan, in April, 1958; and at the Debate Session of Catalyst Chemistry, in July, 1958.)

Kiselev, A. V.
RESEARCH ON ADSORPTION BY THE CHEMICAL FACULTY OF MOSCOW STATE UNIVERSITY. 3 Aug 59, 9p. 22 refs. JPRS: L-1814-D.
Order from OTS $0.50 59-11744

Trans. of Moscow U. Uchenyye Zapiski (USSR) 1955, no. 74, p. 229-234.

This historical sketch includes a brief description of the newly constructed laboratory for adsorption studies at the university. Specifications for interferometers, cryostats, special electrical equipment, etc, in the new installation were drawn up for the instrument industry by members of the laboratory staff. Various priorities in the field of adsorption chemistry are claimed.

Landau, L.
THE THEORY OF SLOW COMBUSTION, tr. by Edward Dimitroff. 28 Oct 57 [14]p. NOTS 1872; NAVORD rept. 5645; AD-150 473.
Order from LC or SLA mi$2.40, ph$3.30 59-19062

Trans. of unidentified Russian mono. 20 Jan 44.

A physical theory explaining the increase of the burning region under certain conditions of a "slow combustion" process has been proposed by Landau. The tube burning of a liquid is unstable when $\rho_1 > \rho_2$, where ρ_1 is the density of the liquid and ρ_2 is the density of the gaseous products of combustion. The oscillations produced in the burning front increase in amplitude with time. As long as the burning velocity is small compared to the sound velocity the width of the burning region and the displacement burning velocity are proportional to the tube diameter. A stationary slow combustion could exist in these flows in which the viscosity and, therefore, the gas heat-conductivity play an important role. The condition for stable combustion can be expressed by inequality: $j^4 < 4\alpha g \rho_1 \rho_2^2$ where, j = the amount of liquid burned in unit time, and α = the surface tension at the boiling point. This inequality refers to an infinite fluid surface. (Author)

Meyklyar, T. V.
MAXIMUM ISODENSITY CURVE SCOPE OF PHOTOGRAPHIC EMULSIONS. [1959] 4p. 1 ref.
Order from LC or SLA mi$1.80, ph$1.80 60-10870

Trans. of Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii (USSR) 1959, v. 4, no. 1, p. 62-64.

If the hypothesis of the stability of centers from two silver atoms is adopted, then after an unlimited increase in the time of exposure the tangent of the isodensity slope angle of a log It, log I plot must converge to 0.5. This figure corresponds to experimental figures in most cases. A closer examination of the problem shows that the photolytic silver centers formed during exposure are decomposed promptly. For a photographic emulsion, the density will not increase at a given illuminance if the exposure time is increased. (See also 59-17636)

Mochalova, L. A. and Kishinevskiy, M. Kh.
ON THE TRANSFER OF SUBSTANCES BY BUBBLING ADSORPTION. [1959] [9]p. 8 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10919

Trans. of *Zhurn[al] Prikl[adnoy] Khim[ii] (USSR) 1958, v. 31 [no. 7] p. 1013-1018.

A method is given for determining of the effective diffusion coefficient for the stage of bubbles and chains of bubbles passage through a plain layer of liquid (bubbling zone) in the absorption by the bubbling method. In the bubble course of the bubbling the effective diffusion coefficient coincides with the molecular diffusion coefficient. At a "chain" course the effective diffusion coefficient surpasses the molecular diffusion coefficient. The great role of end effects in absorption by the bubbling method is stated. At small depths of bubbling the absorption process occurs mainly in the foam zone.

Molchanov, B. N.
THE ATOMIZATION OF LIQUID IN A CARBURETTOR AS A METHOD OF INVESTIGATING MIXTURE FORMATION (Raspylivaniye Zhidkosti v Karbyuratore kak Method Issledovaniya Smeseobrazovaniya). Oct 59 [10]p. RTS no. 1110.
Order from LC or SLA mi$1.80, ph$1.80 59-22403

Trans. of Avtomobil'naya Promyshlennost' (USSR) 1958, no. 4, p. 16-18.

Photographic developer was atomized in a carburetor and deposited on exposed photographic paper. Below a certain air speed (about 50 m/sec). coarse atomization occurred, and above this speed fine atomization was attained. The fineness did not increase even for very large increases in air speed. The drops were deposited evenly on all sides even when the paper was horizontal. Results confirm the theoretical calculations of M. S. Volynskiy. (See also 59-15446)

Nikolayev, A. V. and Shubina, S. M.
ON THE ISOTOPIC EXCHANGE OF TRIBUTYLPHOSPHATE WITH LABELED PHOSPHORIC ACID. 17 Aug 59 [3]p. 2 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10939

Trans. of *Zhurnal Neorganicheskoy Khimii (USSR) 1959, v. 4, no. 4, p. 956-957.

Red phosphorus containing isotope P^{32} was dissolved in nitric acid and heated. The active solution was added to the aqueous original solution (acid or alkaline). The β-activity of the original solution was measured by the Geiger-Muller meter. The exchange tests were carried out in separatory funnels. An equal amount of tributylphosphate was added to the aqueous solution and the phases were shaken. After settling the phases were divided and the organic phase was washed three times with water. After the third wash the activity of the aqueous and organic phases was measured. Except for the first test, when the contact of the phases lasted for only one minute, the activity of the organic phase was 5 to 7% of the original activity, irrespective of the medium (acid or alkaline) and the contact time (1 min to 1 month) of the phases. The β-activity is nearly completely washed off from the tributylphosphate during the first wash and completely during the third wash (into the surrounding medium). A change of the medium into alkaline (1% NaOH solution with the addition of 1 g trisodium phosphate per 10 ml of the original solution) does not affect the activity extraction percentage by tributylphosphate either. The invariability of the activity percentage in tributylphosphate and its easy removal from the organic phase into the medium indicates the absence of an exchange between tributylphosphate and labeled orthophosphoric acid and its salt.

Oertel, R.
OXYCELLULOSE. [1959] 3p. (1 table refs. omitted).
Order from SLA mi$1.80, ph$1.80 59-20831

Partial trans. (p. 246-247) of Angewandte Chemie (Germany) 1913, v. 26, p. 246-[250].

Rostovtsev, S. T.
THE MECHANISM AND KINETICS OF THE REDUCTION OF IRON OXIDES BY GASES (Mekhanizm i Kinetika Vosstanovleniya Okislov Zheleza Gazami). 1959 [18]p. 8 refs. NRL Trans. no. 738.
Order from OTS $0.50 59-21088

Trans. of Soveshchaniye Inst[ituta] Metal[lurgii] Ural'skogo Filiala Akademii Nauk SSSR i Magnitogorskogo Metal[lurgicheskogo] Kombin[ata] 1955. Trudy, p. 65-79.

Experimental and theoretical investigations indicated that (1) all stages of the reduction of Fe_2O_3 to metallic iron have an autocatalytic character; (2) the reduction of Fe_2O_3 results from the formation of an intermediate gamma phase as the composition gradually approaches that of Fe_3O_4; (3) this approach occurs at the expense of diffusion of iron during the reaction, and the diffusing iron fills vacancies in the lattice of the gamma phase and lowers the average iron valence. (4) the diffusion of iron in the reaction is just as important in the reduction of Fe_3O_4 to FeO or Fe; (5) at temperatures below 570° but not yet too low, the reduction of Fe_3O_4 can under certain circumstance produce the lower oxide phase regardless of its thermodynamic instability; and (6) in many cases diffusion interactions slow down the process of reduction. Critical conditions were found, for which diffusion difficulties were eliminated. For the practical problem of forcing the reduction process, these conditions can be more or less realized by reducing the coarseness of the ore sample and increasing its porosity (due to small pores).

Rozman, B. Yu. and others
THERMAL DECOMPOSITION OF AMMONIUM NITRATE. [1959] [4]p. 11 refs. M505.
Order from LC or SLA mi$1.80, ph$1.80 59-22554

Trans. of *[Zhurnal Prikladnoy Khimii] (USSR) 1958, v. 31, no. 7, p. 1101-1102.

Experimental work is reported which supports the theory that thermal decomposition of ammonium

nitrate at 170° to 200°C is catalyzed by nitrogen dioxide and water which are formed from the nitric acid initially released. (Author)

Slavyanskiy, V. T.
POLYMORPHISM OF LIQUIDS, tr. by A. L. Monks. 12 Aug 59, [6]p. 10 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-3785

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1947, v. 58, no. 1077-1079.

An attempt was made to establish the presence of modification transformations in liquid (water, salol, potassium nitrate, barium chloride, and lead chloride) according to their viscosity by using the graphic method of analyzing viscosity advanced by Irany (J. Am. Chem. Soc. 60: 2106, 1938; and 61: 1734, 1939) The breaks found on the viscosity graphs with functional scales are a further confirmation of the existence of the phenomenon of polymorphic transformations in the liquid state.

Spitsyn, V. I. and Finikov, V. G.
ISOTOPIC EXCHANGE BETWEEN FREE OXYGEN AND SEVERAL SILICON COMPOUNDS. 27 Oct 59, 2p. 3 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10945

Trans. of *Akademiya Nauk SSSR. Otdeleniye Khimicheskikh Nauk. Izvestiya, 1959, no. 7, p. 1351-1352.

An investigation was made of the isotopic exchange which occurs at 750° to 800° between gaseous oxygen containing 1.3% atomic O^{18} and the silicon compounds K_2SO_4, SiO_2, K_2SiO_3, and $K_2Si_2O_5$. The degree of exchange, in percent, after 8 hr was 0.8, 8.6, 25.0, and 3.5, respectively, for the above compounds. The respective activation energies of the isotopic exchange reaction, in kcal/mol, were 57.0, 31.8, 30.2, and 78.5. Thus the oxygen bond in the potassium metasilicate was weaker than in the sulfate. (See also 59-12361)

Storonkin, A. V. and Simanavichus, L. E.
INVESTIGATION OF TRIPLE PHASE EQUILIBRIUM IN THE SYSTEM CALCIUM CHLORIDE - METHYL ALCOHOL - WATER (Issledovaniye Trekhfaznogo Ravnovesiya v Sisteme Khloristyy Kal'tsiy - Metilovyy Spirt - Voda). Oct 59 [26]p. 14 refs. RTS no. 1167.
Order from LC or SLA mi$2.70, ph$4.80 59-22405

Trans. of Leningrad U. Vestnik (USSR) 1957 [v. 12] no. 22 [Seriya Fiziki i Khimiyi no. 4] p. 103-119.

An experimental study has been made of solubility and vapour pressure in the system calcium chloride-methyl alcohol-water at 25°C and in a certain region of compositions at 15 and 20°C. On the basis of the thermodynamic theory of three-component heterogeneous systems, there is a discussion of the shape of the isotherm of solubility and the curves of total and partial vapour pressures. There is a theoretical treatment of the process of open evaporation in systems of the above type. There is a discussion of the shape of the line of extremums at the surfaces of the vapour pressure of saturated solutions and the temperature of coexistence of the three-phase system. Relationships are derived between the various thermodynamic values for four-phase equilibrium in a ternary system. (Author)

Sukhotin, A. M. and Kartashova, K. M.
ON THE PASSIVITY OF IRON IN HOT CONCENTRATED ALKALINE SOLUTIONS (O Passivnosti Zheleza v Goryachikh Kontsentrirovannykh Rastvorakh Shchelochi). 1959 [8]p. 5 refs. NRL Trans. no. 757.
Order from OTS $0.50 59-21207

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1958, v. 32, no. 9, p. 2068-2072.

The substance of the passivating film on iron in 10N NaOH at 80° as in acid solutions is magnetic iron oxide. In the system studied the magnetite film may attain considerable thickness but the passivating action is connected only with a very thin layer directly adhering to the metal surface. The characteristic features of the activation and passivation of iron in 10N NaOH are determined by the electrochemical properties of the magnetite film. (Author)

Tilley, T. G.
THE ACTION OF NITRIC ACID ON CASTOR OIL. [1959] 10p. 1 ref.
Order from SLA mi$1.80, ph$1.80 60-10835

Trans. in manuscript of [Justus Liebigs] Ann[alen der] Chem[ie] (Germany) 1841, v. 39, p. 160-168.

Vasil'yev, D. I.
A LABORATORY APPARATUS FOR PURITY TESTING OF A HELIUM FLOW, tr. by J. B. Sykes. Jan 59 [4]p. M600.
Order from LC or SLA mi$1.80, ph$1.80 59-22648

Trans. of *Pribory i Tekhnika Eksperimenta (USSR) 1958, no. 4, p. 107.

A simple apparatus is described which was designed in order to test the purity of helium returning to a liquefaction unit. The bridge elements of the gas analyzer were made of platinum wire 0.02-mm thick and 60-mm long, wound in a spiral of diameter 0.7-mm and length 11 to 12 mm. Two elements were hermetically sealed into glass vessels filled with pure helium at atmospheric pressure, and two other elements were enclosed in similar but open vessels communicating with the flow of gas to be analysed. The bridge elements are symmetrically arranged in a dural block containing a chamber connected into the return flow of helium by sleeve joints. The electric resistance of each element at room temperature is approximately 16 ohms at a measuring current of 1 ma. The gas analyzer is supplied from a 6-volt accumulator battery of capacity 60 to 100 Ah. The operating current in each arm of the bridge is 100 ma. The gas flow is 10 to 15 litres/hr, and a change in this rate of ± 5 litres/hr does not appreciably affect the readings

of the apparatus. The gas analyser unit and the electrical parts are fixed to the front of a duralumin box. The operating current is established by a rheostat of 50 ohms and 2 watts, and the zero point is adjusted by a potentiometer of resistance 0.4 ohms, made from manganin wire of diameter 0.4 mm. The sensitivity at the full operating current of 200 ma is 1 mv per 0.2% admixture of air in the helium. (Author)

Veselovskiy, V. S. and Orleanskaya, G. L.
THE INITIAL STAGE OF OXIDATION OF BLACK COAL AS A SURFACE PHENOMENON (Nachal'naya Stadiya Okisleniya Kamennykh Ugley kak Poverkhnostnoye Yavleniye). [1959] [10]p. 4 refs.
Order from LC or SLA mi$1.80, ph$1.80 59-22359

Trans. of Akademiya Nauk SSSR. Otdeleniye Tekhnicheskikh Nauk. Izvestiya, 1954, no. 4, p. 140-146.

Sorptiometric measurements showed that slight oxidation of black coal reduces the ignition temperature of coal. The adsorption of certain substances on coal causes the same drop in its ignition temperature as oxidation. These substances are primarily acidic. When they are adsorbed on coal, they make its surface hydrophilic and acid, i.e., similar to the surface of oxidized coal. Both raising and lowering the ignition temperature under the action of adsorbed substances are subject to the law of saturation, which is characteristic for adsorption phenomena; i.e., small additions of these substances have the strongest effect, and as the quantities of added material increase the ignition temperature drops to a certain limit. In the case of very active substances this saturation is reached with small additions. Further addition of these substances slowly increases the ignition temperature of the coal, according to another law to which the ignition temperature of binary mixtures of various substances is subject. Both raising and lowering the ignition temperature of black coals are limited to certain maximum values. The adsorption increase in the ignition temperature has a limit which, within the limits of reproducibility of the phenomenon, coincides with the ignition temperature of the coals in the unoxidized state. This means that substances such as benzidine do not raise the ignition point of coal, but prevent the lowering caused by oxidation, and so to speak restore the initial state of the coal. This effect does not depend on the degree of metamorphism of the coal or its petrographic variety.

Zetterwall, Erik.
THE pH VALUE OF HYDROLYZING SALT SOLUTIONS, tr. by G. G. S. 15 Oct 51, 5p. (14 figs. 15 tables omitted) 2 refs.
Order from SLA mi$1.80, ph$1.80 60-10539

Trans. in manuscript of IVA (Sweden) 1947, v. 18 [no. 5] p. 143-149.

EARTH SCIENCES

GROUND CONDUCTIVITY MEASUREMENT PROGRAM IN THE USSR, tr. by Katherine Warren and Jack W. Herbstreit. 30 June 59 [48]p. NBS Trans. T1-60.
Order from LC or SLA mi$3.30, ph$7.80 59-19569

Trans. of Radio [Moscow] (USSR) 1958, no. 7.

Contents:
1. Let us arrange maps of the electrical conductivity of the earth in the USSR! p. 17.
2. Rules for the contest of radio amateurs for the preparation of a map of conductivity of the USSR soil. p. 18.
3. Instructions for the measurement of the conductivity of the soil. p. 18.
4. The propagation of radio waves and conductivity, by Kashirovski. p. 19-21.
5. An elaboration of the problem by the journal "Radio" "A receiver for the measurement of the conductivity of the soil". p. 22-24.
6. A new method for taking local measurements of the earth's conductivity based on wave attenuation. Trans. Plenary Assembly C. C. I. R. (no. 9) Los Angeles, 1959. Doc. 130-E, p. 1.

INFORMATION ON SOVIET BLOC INTERNATIONAL GEOPHYSICAL COOPERATION: 1960. 1 Jan-12 Feb 60, 7 nos.
Order from OTS $12.00/series PB 131 632-T(99-105)

Trans. of unevaluated information on Soviet bloc activities in the International Geophysical Cooperation program.

Vancea, N.
THE INTERNATIONAL GEOPHYSICAL YEAR AND THE TASKS OF THE GENERAL DIRECTORATE OF HYDROMETEOROLOGY. 3 June 59 [6]p. JPRS: L-966-D.
Order from OTS $0.50 59-11567

Trans. of Meteorologia si Hidrologia (Rumania) 1957, v. 2, no. 2, p. 3-7.

Climatology and Meteorology

ARCTIC. SOVIET DRIFTING STATIONS AND EXPEDITIONS 1956-57, tr. by Summer Kirshner and David Kraus. Sep 59 [16]p. T-RC-16+; AD-226 729.
Order from LC or SLA mi$2.40, ph$3.30 59-19632

Trans. of Problemy Artiki (USSR) 1958, no. 4, p. 103-110.

Contents:
Expeditions of the Arctic Institute in 1957, by V. G. Kanaki
The high-latitude aerial expedition of 1957, by M. M. Nikitin
The end of the drift of station North Pole-4, by I. G. Petrov
366 days adrift on a floating ice island, by K. A. Sychev
Scientific inspection of drifting stations and observatories during 1956, by I. M. Dolgin and V. T. Timofeev

INVESTIGATION OF CLOUDS, PRECIPITATIONS AND THUNDERSTORM ELECTRICITY, tr. by A. Pingell. 1959 [5]p. NRL Trans. no. 751.
Order from OTS $0.50 59-21184

Partial trans. (table of contents) of Russian mono. Issledovaniye Oblakov, Osadkov i Grozovogo Elektrichestva, Leningrad, 1957.

Dobryshman, Ye. M.
ALL-CHINA METEOROLOGICAL CONFERENCE ON LONG-RANGE WEATHER FORECASTING. 9 Nov 59, 4p. 2 refs. JPRS: L-1058-N.
Order from OTS $0.50 60-11017

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 3, p. 64-65.

Gorshkov, V. E.
THE QUESTION OF WINTER FRONTO- AND CYCLOGENESIS IN THE NORTHERN PART OF THE SEA OF OKHOTSK (K Voprosu o Zimnem Fronto- i Tsiklogeneze v Severnoy Chasti Okhotskogo Morya) tr. by John Miller. Oct 58 [4]p. 4 refs. T-R-153+.
Order from LC or SLA mi$1.80, ph$1.80 59-22180

Trans. of Meteorologiya i Gidrologiya (USSR) 1957, no. 1, p. 36-37.

A survey is made of the general circulation and orographic conditions of winter fronto- and cyclogenesis.

Grishin, N. I.
STUDY OF THE MOVEMENTS OF NOCTILUCENT CLOUDS BY THE MOTION PICTURE METHOD (Izucheniye Dvizhenii Serebristykh Oblakov Metodom Kinos"yemki) tr. by Judith I. B. Danner. Apr 59 [9]p. 2 refs. T-R-192+.
Order from LC or SLA mi$1.80, ph$1.80 59-22183

Trans. of Meteorologiya i Gidrologiya (USSR) 1957, no. 3, p. 34-37.
Another translation is available from LC or SLA mi$2.40, ph$3.30 as 59-15561 [1959] 11p.

Slow-motion pictures of noctilucent clouds made in 1953-56 are analyzed. Crests and crestlets of the observed fields constitute 3-dimensional waves which usually occupy a definite limited region. The area of the undulatory regions and the duration of their existence vary within wide limits. A "channel flow", within which small vortices occur, apparently causes formation of jets and bands.

Lalovski, Khr. and Blagoev, Khr.
ANTICYCLONIC TYPE WEATHER IN BULGARIA. 4 Nov [58] 8p. JPRS(NY)-L-444.
Order from OTS $0.50 59-11011

Trans. of Khidrologiya i Meteorologiya (Bulgaria) 1958, no. 1, p. 14-20.

Matveyev, L. M.
ON THE THEORY OF THE FORMATION OF CLOUDS AND AIRCRAFT VAPOR TRAILS UNDER THE INFLUENCE OF MIXING. 10 Nov 59, 9p. 2 refs. JPRS: L-1052-N.
Order from OTS $0.50 60-11018

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 3, p. 3-9.

Methods are developed for calculating the water content of the clouds (including aircraft vapor trails) that form as a result of mixing, and the conditions of such formation.

Rakipova, L. R.
THE EFFECT OF ATOMIC EXPLOSIONS ON THE ATMOSPHERE (Vliyaniye Atomnykh Vzryvov na Atmosferu) tr. by Richard M. Holden and David Kraus. Jan 59 [15]p. 26 refs. T-R-175+; AD-227 544.
Order from LC or SLA mi$2.40, ph$3.30 59-22214

Trans. of Meteorologiya i Gidrologiya (USSR) 1957, no. 6, p. 53-57.
Another translation is available from OTS $0.50 as 59-11598, JPRS(DC)-L-900, 24 Aug 59, 10p.

A review of the literature indicates that the probability of development of sharply anomalous, and, in particular, catastrophic phenomena of weather as a result of the effects of artificial nuclear explosions in the atmosphere is very small. A more natural cause of sharply expressed anomality of atmospheric processes in recent years is the increase of solar activity in connection with the approach to the maximum of the century and 11-year cycles.

Sokolov, I. F.
A DUST STORM IN THE PRIMOR'YE (Pyl'naya Burya v Primor'ye) tr. by John Miller. Nov 58 [2]p. T-RC-12+; AD-227 545.
Order from LC or SLA mi$1.80, ph$1.80 59-22212

Trans. of Meteorologiya i Gidrologiya (USSR) 1957, no. 3, p. 45-46.

On 14 April 1956 a meteorological phenomenon - an intense "black storm," rare for the monsoon climate of the Primor'e region, was observed in the territory of the Pre-Khanka plain [Prikhankaiskaia ravnina] (ca.

45°N, 132°E) This storm occupied the entire plain (an area of about 20,000 km^2) and raged for a total of 5-8 hours. It was the most violent storm in the past 75 years (since 1882) both in scope and intensity. The storm reached its maximum force in the Khanka region near the village of Astrakhanka, where the storm lasted more than 4 hours, beginning at 0938 hours local time. The southwest wind reached a velocity of 22-24 m/sec, while individual gusts exceeded 30 m/sec (according to anemorhombograph records). The air temperature during the day rose to 11°, while the relative humidity dropped to 22% (on the very shores of Lake Khanka, the largest lake in the Far East). The storm was accompanied by the transport of such an enormous amount of dust that the horizontal visibility dropped to 50 m, and occasionally was no more than 5-10 m. It is characteristic that even after the dust storm had ended, continuous atmospheric turbidity was noted in the region of Astrakhanka up to 2200 hours, while the relative atmospheric humidity dropped to 13% by 1900 hours (from 22% at 1300 hours). In areas located in the southern and southwestern regions of the plain the relative humidity even dropped to 8% with a west wind, while the air temperature here reached 16-17°. However, the wind velocity in these regions did not exceed 16-20 m/sec. (The translation is given here in its entirety.)

Vancea, N.
ARTIFICIAL PRECIPITATIONS. 10 June 59, 8p.
JPRS: L-967-D.
Order from OTS $0.50 59-11568

Trans. of Meteorologia si Hidrologia (Rumania) 1957, v. 2, no. 2, p. 39-43.

Zverev, N. I.
PROGRESS-REPORT SESSION OF THE SCIENTIFIC COUNCIL OF THE CENTRAL INSTITUTE OF FORECASTS. 19 Nov 59, 3p. JPRS: L-1078-N.
Order from OTS $0.50 60-11042

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 5, p. 61-62.

Frost Science

ICE AIRFIELDS [OR] STRUCTURE AND PHYSICAL PROPERTIES OF THE ICE COVER OF FRESH WATER BODIES, tr. by Stephen Evanusa. [1959] [15]p. (11 figs. omitted) 2 refs. H-3559.
Order from LC or SLA mi$2.40, ph$3.30 59-19238

Trans. of unidentified Russian mono., 1936?

Trushin, V. F.
THE SNOWMELT REGIME AND THE RATE OF SPRING WATER RUNOFF WHEN THE SNOW IS COVERED WITH A CONTINUOUS LAYER OF BLACK POWDER (Rezhim Tayaniya Snega i Intensivnost' Vesennogo Zhidkogo Stoka pri Sploshnom Pokrytii Snega Chernym Poroshkom) tr. by Richard M. Holden. Jan 59 [5]p. 10 refs. T-R-179+; AD-227 546.
Order from LC or SLA mi$1.80, ph$1.80 59-22215

Trans. of Meteorologiya i Gidrologiya (USSR) 1957, no. 3, p. 44-45.

The following conclusions were reached on the basis of observations of snowmelt covered with black powder: (1) blackening of snow in a continuous layer on terrace fields promoted an earlier onset of snowmelt, even when the ambient air temperature was negative, an increase in the snowmelt period and duration of water runoff, and reduction of the rate of runoff; and (2) snow blackening yields positive results only when all the fields are covered with a more or less heavy layer of snow at the time the spring snowmelt begins, otherwise snow blackening is ineffective. (Author)

Geodesy

GEODEZIYA I KARTOGRAFIYA (USSR) 1959 (Geodesy and Cartography). [1959]
Order from OTS $0.60, $3.50/6 mo.
Foreign $0.85, $5.00/6 mo.

No. 9, p. 3-80, PB 141 001T-21
No. 10, p. 3-79, PB 141 001T-20

Consists of abstracts in English.

Modrinskiy, M. I.
GEODESY IN THE POLISH PEOPLE'S REPUBLIC (Geodeziya v Pol'skoy Narodnoy Respublike).
6 Oct 59 [5]p. AF 1256158.
Order from LC or SLA mi$1.80, ph$1.80 59-22150

Trans. of Geod[e]ziya i Kartografiya (USSR) 1959, no. 6, p. 61-67.

Osowski, F.
STATUS OF CARTOGRAPHIC DATA ON THE AREA OF POLAND. 1 Apr 59, 43p. (10 maps omitted).
JPRS: L-1590-D.
Order from OTS $1.25 59-11480

Trans. of mono. Dokumentacja Geograficzna (Geographic Documentation) Warsaw, 1955, pt. 10, p. 1-46.

The most important, fundamental cartographic publications are compared and their characteristics are presented with a view toward the possibility of making use of their contents in geographic work. The material as a whole is divided into four periods: (1) The second half of the 18th century (1750-1800); (2) The first half of the 19th century (1800-1843); (3) The end of the 19th century (1875-1910); and (4) The first half of the 20th century (1910-1939). Only those maps are considered which cover compact areas and which from the stand-

point of scale can be of use as source material in detailed geographic research. A scale of 1:300,000 is the upper limit for the materials included. Evaluation of the accuracy of the maps is given chiefly when, for the given area, there is coverage by maps of the same or approximately the same scale, but which differ considerably in their accuracy.

Yu, Ts'ang.
REPORT ON SURVEYING AND CARTOGRAPHY. II. THE PRESENT CONDITIONS. 21 Oct 59, 14p. JPRS: 1957-N.
Order from OTS $0.50 59-13957

Trans. of T'se Hui T'ung Pao (Chinese People's Republic) 1958, v. 4, no. 2, p. 91-93.

Various rooms are described that form part of a public exhibit.

Geography

Kuo, Ching-hui.
HYDROGRAPHY OF THE RIVERS IN COMMUNIST CHINA. 20 Nov 59, 39p. 4 refs. JPRS: 2027-N.
Order from OTS $1.00 60-11076

Trans. of Ti-li Chih-shih (Chinese People's Republic) 1958, v. 9, no. 2, p. 49-53 and no. 3, p. 109-114.

Contents:
General situation of river basins in China
Distribution of hydrographic networks of rivers in China
Hydrographic characteristics of rivers in various regions of China
Run-off of the rivers in China
Resources of river run-off in China -- the balance of water
Sand and mud carried by rivers in China
Transformation and utilization of rivers in China

Li, Chen-ch'uan.
ECONOMIC GEOGRAPHY OF THE YEN-PIEN KOREAN AUTONOMOUS CHOU. 18 Nov 59, 131p. 10 refs. JPRS: 2019-N.
Order from OTS $2.75 60-11045

Trans. of mono. Yen-pien Ch'ao-hsien-tsu-Tzu-chih Chou Ching-chi Ti-li, Shanghai, 1957, 84p.

The Yen-pien Korean Autonomous Chou of Kirin Province is the principal area inhabited by the people of Korean nationality in China. It is also the first nationality autonomous area in the nation to have basically completed socialist reform. The level of industrial development in the chou is relatively high. This publication attempts to present and analyze the characteristics of the physical geography of Yen-pien, to reflect its historical development and to analyze accurately and in detail the nationalities, population, agriculture, industry, communications and transport of the area. The interplay of various elements in the area's physical and economic geography is also presented. The trends and prospects for economic development are discussed. Finally, the economic factors which have accounted for the distribution and historical development of the towns and the cities throughout the autonomous chou are also pointed out and analyzed. The materials for this book were derived mainly from field studies. This publication is based on materials from rich and unusual sources and contains numerous illustrations. It would thus be useful for geography workers and high school geography teachers. (Author)

Geology

*GEOKHIMIYA (USSR) 1959, NO. 6, P. 483-1965 (Geochemistry). [1959] [18]p. SOV-7-59-6-(1-17)/17.
Order from OTS $0.60, $2.25/6 mo. PB 141 002T-14
Foreign $0.85, $3.25/6 mo.

Consists of abstracts in English.

Ruhle, Edward.
GEOLOGICAL SCIENCE INSTITUTES IN THE ACADEMY OF SCIENCE IN USSR. 8 June 59, 8p. JPRS: L-1692-D.
Order from OTS $0.50 59-11638

Trans. of Przeglad Geologiczny (Poland) 1959, v. 7, no. 1, p. 27-29.

Oceanography

Illarionov, V. I. and Benditsky, N. D.
A FLOW METER - A MEASURER OF THE VELOCITY AND DIRECTION OF FLOW [AND] MEASUREMENT OF THE TEMPERATURE OF THE SURFACE LAYER OF WATER IN THE OPEN SEA [Struyemer - Izmeritel' Skorosti i Napravleniya Techeniya [and] Ob Izmerenii Temperatury Poverkhnostnogo Sloya Vody v Otkrytom More]. [1959] 6p. M. 168; M. 169.
Order from LC or SLA mi$1.80, ph$1.80 59-19065

Trans. of *Meteorologiya i Gidrologiya (USSR) 1958, no. 6, p. 49-54.

A flow meter: An instrument, developed by V. I. Illarionov at the State Hydrological Institute, is described which measures the magnetic bearing of the direction of a flow of water. The instrument is designed for work in conjunction with a hydrometric current meter of type ZH-3. This enables simultaneous measurement of flow velocity and direction. The working principle of the instrument is based on

measurement of the angle in the horizontal plane between the north end of the magnetic needle and the longitudinal axis of the body of the current meter. The magnitude of this angle is measured by electric current pulses (which are recorded on board the ship) with an electric current pulse counter without withdrawing the current meter from the water. Measurement of the temperature of the surface layer of water in the open sea: Comparative observations of sea water temperature made by remote-control hydrometeorological stations on ships (on which the receiver (sic) of the water temperature was located in the middle of the hull from 1.5 to 4.5 m below the water surface) and by usual methods showed that the movement of a ship agitates the water and causes a levelling of the temperature down to a 4- or 5-m depth. The [geographical] region, the season, the degree of agitation and the force of the wind were found to have a negligible influence on the intensity of water agitation and temperature levelling. The installation either of thermometers accurate to within 0.1° in the engine rooms or of remote control hydrometeorological stations is proposed for all ships afloat or under construction.

Laktionov, A. F.
BOTTOM TOPOGRAPHY OF THE GREENLAND SEA IN THE REGION ON NANSEN'S SILL. [1959] [5]p. 9 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10893

Trans. of Priroda (USSR) 1959 [v. 48] no. 10, p. 95-97.

In 1955-1956 the Arctic and Antarctic Research Institute carried out a complex of oceanographic researches from the vessels Litke, Ob', Lena and Toros in the northern part of the Greenland Sea and in the Central Arctic areas adjacent thereto. These expeditions endeavored to study in detail the bottom topography in the Nansen Sill area, and to determine the exchange of water and heat between the North Atlantic and the Arctic Basin. Several hydrological cross-sections and depth traverses were made. During the voyages of the Ob' (1956) and Lena (1957) alone the hydrographers of these expeditions made about 10,000 km of reconnaissance soundings over an area of more than 150,000 sq km. The expeditions were able, for the first time, to survey in detail the inaccessible northwestern part of the Greenland Sea, hitherto entirely unexplored in oceanographic respects; they were successful in establishing unbroken hydrological profiles from Spitsbergen to the shores of Greenland and in carrying their scientific operations northward of latitude 83°N. It was established that there does not exist any such continuous "Nansen's Sill" as has been hitherto charted. The sill is cut through, almost at its middle, by a deep-water trough (saddle), the axis of which extends in a north-south direction along the meridian of 1°W. The depths in the center of this trough are as much as 3500 to 3900 m in the southern part and 3100 to 3400 m in the northern part. Farther to the north the trough merges into the deep-water depression of the Atlantic side of the Arctic Basin. Hydrological, geological and hydrochemical data also confirm the existence of the trough.

Rukhin, L. B.
THE LOWER PALEOZOIC CORALS AND STROMATOPOROIDES OF THE UPPER PART OF THE KOLYMA RIVER, tr. by G. Rabchevsky. 4 Sep 59 [19]p. (22 figs. omitted) 2 refs.
Order from LC or SLA mi$2.40, ph$3.30 59-22349

Trans. of excerpts from Materialy po Izucheniyu Kolymsko-Indigirskogo Kraya. Seriya 2: Geologiya i Gemorfologiya (USSR) 1938, no. 10.

Shtokman, V. B.
THE HORIZONTAL EXPANSION OF TEMPERATURE ANOMALIES IN THE OCEAN (O Gorizontal'nom Rasprostranenii Temperaturnykh A Anomalii v Okeane) tr. by Garry Boyer and David Kraus. May 56 [10]p. 7 refs. T-R-884
Order from LC or SLA mi$1.80, ph$1.80 60-13216

Trans. of Problemy Artiki (USSR) 1940, no. 5, p. 7-12.

Timofeyev, V. T.
AN APPROXIMATE DETERMINATION OF THE HEAT BALANCE OF ARCTIC BASIN WATERS (Priblizhennoye Opredeleniye Teplovogo Balansa Vod Arkticheskogo Basseyna) tr. by Judith B. Danner. Nov 58 [10]p. 5 refs. T-R-164†.
Order from LC or SLA mi$1.80, ph$1.80 59-22216

Trans. of Problemy Arktiki (USSR) 1958, no. 4, p. 23-28.

Approximate calculations show that 86%, or $434,593 \times 10^{12}$ kcal of heat, is expended on the heat exchange between the water and the air, while 52%, or $263,070 \times 10^{12}$ kcal of this amount, is dissipated in the peripheral seas of the Arctic Basin. These data make it possible to draw a number of conclusions and to set a course for further investigations in the Arctic which will provide a sound basis for forecasting the ice cover along the Northern Sea Route.

Physics of the Atmosphere

Danilin, B. S.
MODEL OF THE UPPER ATMOSPHERE (Modelo Verkhney Atmosfery) tr. by E. H. [1959] [4]p. H-4447.
Order from LC or SLA mi$1.80, ph$1.80 59-19906

Trans. from Nauka i Zhizn' (USSR) 1959 [v. 26] no. 5 [p. 20].

Experiments with artificial earth satellites and altitude rockets (including rockets in the polar regions) carried out during the International Geophysical Year showed that the diurnal summer densities of the atmosphere are almost 20 times greater than the nocturnal winter densities and that the density of the atmosphere in the polar areas is approximately 5 times than it is close to the equator. The sun, and the numerous processes which take place on it, has an

exceptionally great influence on the earth's atmosphere. Solar radiation and particles ejected by the sun cause magnetic storms, cause the polar lights and ionization of the upper layers of the atmosphere. The strong magnetic storms are accompanied simultaneously by an increase in the retardation of the satellite, a phenomenon which is evidently connected with the increase in density and temperature of the atmosphere.

Kuznetsov, G. I.
THE PROBLEM OF OZONE. 20 Nov 59, 15p.
25 refs. JPRS: L-1088-N.
Order from OTS $0.50 60-11053

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 4, p. 62-67.

Seismology

Kalashnikov, A. G.
THE USE OF MAGNETOMETRIC METHODS FOR SOLVING THE PROBLEM OF EARTHQUAKE PREDICTION. [1959] 17p.
Order from ATS $21.00 ATS-24L35R

Trans. of Akad[emiya] Nauk SSSR. Geofiz[icheskiy] Inst[itut]. Trudy, 1954, no. 25(152) p. 162-180.

Savarenskiy, E. F.
SOME NOTES ON THE EFFECT OF GROUND CONDITIONS ON SEISMIC AND CLINOMETRIC OBSERVATIONS. [1959] 9p.
Order from ATS $13.75 ATS-23L35R

Trans. of Akad[emiya] Nauk SSSR. Geofiz[icheskiy] Inst[itut]. Trudy, 1954, no. 22(149) p. 102-110.

Tikhonov, A. N., Ivanov, A. G. and others.
THE CONNECTION BETWEEN EARTH CURRENTS AND EARTHQUAKES. [1959] 10p.
Order from ATS $12.50 ATS-25L35R

Trans. of Akad[emiya] Nauk SSSR. Geofiz[icheskiy] Inst[itut]. Trudy, 1954, no. 25(152) p. 181-191.

ENGINEERING

DIGEST OF SOVIET TECHNOLOGY, 1959 [VOL. 1] NO 9. Dec 59, 60p.
Order from EIS $18.00/Surface mail
$22.00/Airmail

Consists of translations on recent technological developments in the USSR and East European countries selected from periodical and non-periodical literature from these countries.

KHOLODIL'NAYA TEKHNIKA (USSR) 1959 [VOL. 36] NO. 5, P. 1-79 (Refrigeration Engineering). [1959] 1v. SOV-66-59-5-(1-35)/35.
Order from OTS $0.70, $2.50/year PB 141 061T-5
Foreign $0.95, $3.50/year

Consists of abstracts in English.

SCIENTIFIC SESSIONS, CONFERENCES AND CONSULTATIONS. (Nauchnyye Sessii, Konferentsii i Soveshchaniya). [1959] [53]p. M608.
Order from LC or SLA mi$3.60, ph$9.30 59-22640

Trans. of Akademiya Nauk SSSR. Vestnik, 1958 [v. 28] no. 9, p. 109-123.

Topics are noted of papers presented at conferences on (1) the mechanical properties of nonmetallic solid substances, held May 19 to 24 in Leningrad; (2) biologically active polymer compounds, held June 11 to 13 in Moscow; (3) the analysis of gases in metals, held in Moscow on June 24 to 27; (4) combustion and atomization in diesels, held June 10 to 12 in Moscow; (5) problems of water treatment in electric power stations, held May 26 to 28; (6) ways of improving mining transport, two conferences, held June 24 to 26 and July 17 and 18; (7) the preservation of natural land resources, held June 18 and 19 in Tiflis; and (8) the problems of Library classification, held April 24 to 26 in Leningrad.

Gajzago, Aladar
CURRENT SITUATION OF COAL MINING IN THE SALGOTARJAN BASIN. 11 May 59 [36]p. 4 photos. omitted) 9 refs. JPRS: L-771-N.
Order from OTS $0.75 59-13487

Trans. of Foldrajzi Kozlemenyek (Hungary) 1958, v. 4, no. 3, p. 237-26i.

On account of its natural resources and from the view-point of economic geography, the Salgotarjan coal basin, located in the northeastern part of Nograd Megye and surrounded by the andesites of Cserhat and Karancs, the basalts of the plateaus of Szilvasko and Medves, and the Matra Mountains, represents one of the most important areas of the northern industrial region. (Author)

Neyman, M.
THERMONUCLEAR WEAPONS. [1959] 9p.
Order from LC or SLA mi$1.80, ph$1.80 59-22169

Trans. of Voyennyy Vestnik (USSR) 1957 [v. 37] no. 9, p. 67-72.

Wehner, E.
THE PRESENT STATE OF ELECTRIC DETONATION OF SHOTS IN COAL MINING. [1959] 19p. (6 figs. omitted) 11 refs.
Order from SLA mi$2.40, ph$3.30 60-10903

Trans. of Nobel Hefte (West Germany) 195[8] v. 24, p. 161-170.

Discussions are presented on present types of detonators, flameproofness of electric detonators, dangers causing premature detonation, inherently safe electrical ignition circuits, and parallel connection of electric detonators.

Zalkin, S.
IT IS BOTH FASTER AND CHEAPER TO DRILL WELLS WITH A NEW METHOD; WHY THEN IS IT INTRODUCED SO SLOWLY? (I Bystraye i Deshevle Burit' Skvazhiny Novym Metodom; Pochemu Zhe on Medlenno Vnedryayetsya?). 29 Sep 59 [3]p.
AF 1256127.
Order from LC or SLA mi$1.80, ph$1.80 59-22153

Trans. from Pravda [Moscow] (USSR) 1959, no. 234, p. 2.

The new method is that of double-barrelled drilling of wells concentrated in groups. The causes for the delay in introducing the method are rooted in the system of planning and financing, including shortages of equipment and incomplete deliveries.

Aeronautical Engineering

Cicala, Placido.
PIECEMEAL SOLUTIONS IN THE PROGRAMMING OF OPTIMAL FLIGHT TRAJECTORIES (Soluzioni Discontinue nei Problemi di Volo Ottimo) tr. by R. H. Cramer. Oct 59 [40]p. 3 refs. Technical Trans. F-3.
Order from OTS $1.00 59-21194

Trans. of Accademia delle Scienze di Torino. [Classe di Scienze Fisiche, Matematiche e Naturali]. Atti (Italy) 1956, v. 90, June, p. 533-551.

The general equations that govern the shape of the optimal flight paths that may be executed in a vertical plane are written out in a form which is especially suited to study of the practical situation wherein the complete trajectory is made up out of piecemeal sections of diverse character. As a rule, real flight paths will be found to consist of such spliced together portions of trajectory-segments, along which special local rules of flight will be in force in order to meet a series of variant conditions, such as are usually imposed, for instance, by placarded rules of operation designed to prevent over-stressing of the structure, excessive engine wear, flame-outs, instabilities in the electronics, etc. The criteria which must be followed in linking together these component pieces making up the total contribution to the final trajectory are set forth in general terms in this paper and then the solutions of some particular cases are offered in illustration of the way the recommended optimization procedure is to be applied in practice. (Author)

Schlichting, Hermann.
CALCULATION OF THE FRICTIONLESS INCOMPRESSIBLE FLOW FOR A GIVEN TWO-DIMENSIONAL CASCADE (DIRECT PROBLEM) (Berechnung der reibungslosen inkompressiblen Strömung für ein vorgegebenes ebenes Schaufelgitter), tr. by Mary L. Mahler. Oct 58 [121]p. 30 refs. CC-L-403.
Order from LC or SLA mi$6.30, ph$19.80 59-16784

Trans. of VDI-Forschungsheft (West Germany) 1955, no. 447.

A simple method for calculating the frictionless incompressible flow through a two-dimensional cascade is described for the case where the blade and cascade geometries are prescribed and the aerodynamic coefficients and pressure distributions are desired. The calculation method which makes use of a continuous vortex and source-sink distributions is set up in such a manner that each geometric parameter can be varied independently. Measured values of pressure distributions agree well with those calculated by present theory. (NASA abstract)

Verkovskiy, V.
RADIO EQUIPMENT OF THE AN-10 AIRCRAFT (Samolet AN-10; Radiooborudovaniye). 7 Oct 59 [5]p.
AF 1256171.
Order from LC or SLA mi$1.80, ph$1.80 59-22145

Trans. of Grazhdanskaya Aviatsiya (USSR) 1959 [v. 16] no. 7, p. 22-23.

Chemical Engineering

KHIMICHESKAYA NAUKA I PROMYSHLENNOST' (USSR) 1959, VOL. 4, NO. 3, P. 290-416 (Chemical Science and Industry). [1959] 1v. SOV-63-4-3-(1-31)/31.
Order from OTS $0.70, $4.00/year PB 141 058T-4
Foreign $0.95, $5.50/year

Consists of abstracts in English.

KHIMICHESKAYA PROMYSHLENNOST' (USSR) 1959, NO. 5, P. 371-461 (Chemical Industry). [1959] 1v. SOV-64-59-5-(1-28)/28.
Order from OTS $0.60, $2.25/6 mo. PB 141 059T-14
Foreign $0.85, $3.25/6 mo.

Consists of abstracts in English.

KISLOROD (USSR) 1959 [V. 12] NO. 4, P. 1-55 (Oxygen). [1959] [16]p. [SOV]-67-59-4-1-(1-19)/19.
Order from OTS $0.60, $3.50/year PB 141 062T-11
Foreign $0.85, $5.00/year

Consists of abstracts in English.

PETROLEUM INDUSTRY, USSR. 30 July 59 [6]p. AF 1255976.
Order from LC or SLA mi$1.80, ph$1.80 59-19717

Consists of excerpts from Stroitel'stvo Truboprovodov (USSR) nos. 16, 29, 30, 36, 44, 46, and 62.

*ZHURNAL PRIKLADNOY KHIMII (USSR) 1959 [VOL. 32] NO. 5, P. 941-1180 (Journal of Applied Chemistry). [1959] 1v. SOV-80-32-5-(1-52)/52.
Order from OTS $0.90, $5.00/6 mo. PB 141 076T-5
Foreign $1.15, $6.50/6 mo.

Consists of abstracts in English.

Bondarenko, S. T., Brodskaya, B. Kh., and others.
APPLICATION OF ELECTRIC CURRENT FOR INDIRECT REACTION ON A FUEL SEAM IN SHAFTLESS UNDERGROUND GASIFICATION. [1959] [4]p.
Order from LC or SLA mi$1.80, ph$1.80 59-22353

Partial trans. [table of contents] of Primeneniye Elektricheskogo Toka dlya Neposredstvennogo Vozdeystviya na Plast Topliva pri Besshakhtnoy Podzemnoy Gazifikatsee, Moscow, 1959.

Budnikov, P. P.
CHEMISTRY TOMORROW (Khimiya Zavtra) tr. by Vawryk. [1959] [4]p. H-4011 B.
Order from OTS $0.50 59-21154

Trans. from [Sovetskaya Aviatsiya] (USSR) 1959, 24 Jan.

Goals for the chemical industry for 1959-1965, as provided for by the 21st meeting of the Communist Party of the Soviet Union on the control figures of the development of the national economy of the USSR are discussed. The volume of production must increase almost three times.

Zborowski, Zygmunt.
PROSPECTS FOR THE DEVELOPMENT OF THE PETROLEUM INDUSTRY IN POLAND. [1959] 11p. JPRS: L-1147-D.
Order from OTS $0.50 59-11582

Trans. of Nafta (Poland) 1958, v. 14, no. 7, p. 175-179.

Civil Engineering

GIDROTEKHNICHESKOYE STROITEL'STVO (USSR) 1959 [V. 28] NO. 10, P. 1-66 (Hydraulic Engineering Construction). [1959] 1v. SOV-98-59-10-(1-20)/20.
Order from OTS $0.50, $3.00/6 mo. PB 141 091T-21
Foreign $0.75, $4.50/6 mo.

Consists of abstracts in English.

MEKHANIZATSIYA STROITEL'STVA (USSR) 1959, [V. 16] NO. 10, P. 1-33 (Mechanization of Construction). [1959] [11]p. SOV-100-59-10-(1-12)/12.
Order from OTS $0.50, $3.00/6 mo. PB 141 093T-11
Foreign $0.75, $4.50/6 mo.

Consists of abstracts in English.

TSEMENT (USSR) 1959 [VOL. 25] NO. 5, P. 1-32 (Cement). [1959] [11]p. SOV-101-59-5-(1-11)/11.
Order from OTS $0.50, $3.00/year PB 141 094T-10
Foreign $0.75, $4.50/year

Consists of abstracts in English.

Antonov, K.
THE FUNDAMENTALS OF THE NEW STANDARDS FOR THE DESIGN OF REINFORCED CONCRETE FRAMES OF MULTI-STORY BUILDINGS WITH LOAD-BEARING REINFORCEMENT, tr. by G. N. Gibson. Feb 50 [5]p. Library Communication no. 379; M243.
Order from LC or SLA mi$1.80, ph$1.80 59-19133

Trans. of Arkhitektura i Stroitel'stvo (USSR) 1949 [v. 4] no. 7, p. 23-24.

Cherkasov, P. K.
WORK OF THE RESEARCH INSTITUTES OF THE DEPARTMENT OF BUILDING IN HEAVY INDUSTRY DURING THE LAST FIVE YEAR PLAN (Rabota Nauchno-issledovatel'skikh Institutov Mintyazhstroya za Istekshuyu Pyatiletku) tr. by K. Simon. May 53 [6]p. Library Communication no. 637; M265.
Order from LC or SLA mi$1.80, ph$1.80 59-19144

Trans. of Stroit[el'naya] Prom[yshlennost'] (USSR) 1951, v. 29, no. 1, p. 12-14.

Zuchowski, Zdzislaw.
TRENDS IN THE DEVELOPMENT OF CONSTRUCTION TECHNOLOGY IN POLAND. 1 July 59, 12p. (3 figs omitted). JPRS: L-1025-D.
Order from OTS $0.50 59-11574

Trans. of Przeglad Techniczny (Poland) 1958, no. 5, p. 166-170.

Electrical and Electronic Engineering

THE DEVELOPMENT OF RADIO-COMMUNICATIONS, BROADCASTING AND TELEVISION [Razvitiye Radiosvyazi, Radioveshchaniya i Televideniya]. [1959] 4p. M568.
Order from LC or SLA mi$1.80, ph$1.80 59-22678

Trans. of extract from *Radiotekhnika (USSR) 1958, v. 13, no. 5 [p. 3-6].

Goals for the period 1959 to 1965 are discussed.

ELECTRIC POWER TRANSMISSION LINES; POWER SYSTEMS AND TRANSFORMER STATIONS IN ROMANIA: BIBLIOGRAPHY. 24 Sep 59 [5]p. 172 refs. AF 1256120.
Order from LC or SLA mi$1.80, ph$1.80 59-22160

Trans. from Czechoslovakian, German, Hungarian, Polish, Romanian and USSR open sources, 1955-1959.

*ELEKTRICHESTVO (USSR) 1959, NO. 10, P. 1-95 (Electricity). [1959] 1v. SOV-105-59-10-(1-25)/25.
Order from OTS $0.80, $4.50/6 mo. PB 141 098T-18
Foreign $1.05, $6.00/6 mo.

Consists of abstracts in English.

IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY. ELEKTROMEKHANIKA (USSR) 1959, NO. 6, P. 3-114 (News of Institutes of Higher Learning, Electromechanics). [1959] 1v. SOV-144-59-6-(1-15)/15.
Order from OTS $0.80, $4.50/6 mo. PB 141 101T-10
Foreign $1.05, $6.00/6 mo.

Consists of abstracts in English.

Bektabegov, A.
PIEZO-CERAMIC TELEPHONE (P'yezokeramicheskiy Telefon) tr. by S. E. [1959] 3p. (4 figs. omitted). H-3741 A.
Order from OTS $0.50 59-21157

Trans. of Radio [Moscow] (USSR) 1958, no. 5, p. 45.

Ceramic barium titanate is used in a piezoelectric telephone of original design. The construction of this device is based on the following principle. If an alternating voltage is applied to a thin piezoceramic disc, it will vibrate in the radial direction. If a piezoelectric element is made by cementing two similar discs such that they operate out-of-phase, the piezoelectric element, under the action of the alternating voltage, starts to oscillate in a direction perpendicular to its plane, thus assuming a spherical shape. By fastening the piezoelectric element in a suitable chamber, we obtain a piezoelectric telephone, in which the piezoelectric element not only changes electrical oscillations into acoustical oscillations, but also serves as their direct radiator. Several versions of piezoceramic telephones have been developed in the Central Scientific Research Laboratory for Piezoelectric Technology (TsNILP). (Extracted from the report)

Bogatyrev, O. M.
A SIMPLE APPROXIMATE METHOD OF CALCULATING PROCESSES DESCRIBED BY A DUHAMEL INTEGRAL (Prostoy Priblizhennyy Metod Rascheta Protsessov, Opisyvayemykh Integralom Dyuameliya) tr. by T. H. Shepertycki. 1959, 12p. 4 refs. Technical Trans. 818.
Order from NRCC mi$1.00 NRC C-3097

Trans. of *Elektrichestvo (USSR) 1957, no. 12, p. 50-54.

A tabular method of computation is proposed, which can be used for any desired form of Duhamel's integral.

Bogomolov, V. N.
SOME NEW TYPES OF APPARATUS USING SEMICONDUCTORS (NEW USES OF THE HALL EFFECT) tr. by D. R. Warry. [1959] [4]p. 3 refs. M552.
Order from LC or SLA mi$1.80, ph$1.80 59-22693

Trans. of *Zhurnal Tekhnicheskoy Fiziki (USSR) 1956, v. 26, no. 3, p. 693-694.

Apparatus discussed includes a square-law detector, an ideal linear detector, and a spectrum analyzer.

Bunimovich, V. I.
APPROXIMATE EXPRESSION FOR DETECTION PROBABILITY OF A SIGNAL WITH UNKNOWN PHASE AT OPTIMUM RECEPTION (Priblizhennoye Vyrazheniye Veroyatnosti Provil'nogo Obnaryzheniya pri Optimal'nom Priyeme Signala s Neyzvestnoy Fazoy) tr. by Earl Turner. [1959] [5]p. H 4311
Order from OTS $0.50 59-21155

Trans. of *Radiotekhnika i Elektronika (USSR) 1958, v. 3, no. 4, p. 552-554.

Efrussi, M.
NEW "STABILITRONS" (Novyye Stabilitrony) tr. by S. E. [1959] 4p. (2 figs. omitted). H-3741 D.
Order from OTS $0.50 59-21160

Trans. of Radio [Moscow] (USSR) 1958, no. 5, p. 61.

The recently introduced stabilitrons SG7S, SG8S and SG9S operate with corona discharge and are very similar in design to glow discharge stabilitrons. Their envelopes are filled with hydrogen, but at a higher pressure. The stabilitron working voltage is determined by the gas pressure in the tube envelope (16 to

16.5 mm of mercury column in the SG7S, 80 to 82 mm in the SG8S, and 140 to 143 mm in the SG9S). The anode is the corona electrode. A steady-state corona discharge is sustained as a result of volume ionization of the gas by light quanta (photons) created in the corona layer; free electrons appear on the boundary of this layer and form an avalanche. The free electrons, which appear in a region with a sufficient field intensity, move toward the anode with increasing velocity (the field intensity is greater near the anode) and form an electron avalanche which strikes the anode. Only positive ions leave the corona layer and enter the exterior region; they determine the amount of current flowing through the interelectrode space, thus forming a positive space charge. As in the glow discharge, a constant voltage drop is maintained in the corona discharge gap; within certain limits, this constant voltage drop does not depend upon the current flowing through the interelectrode space. This makes it possible to utilize a corona discharge tube for voltage stabilization in the same manner as the glow discharge tube. The voltage drop in a corona dischage tube is several times greater, and the current flowing through the tube is several hundred times less, than in the glow discharge tube.

Gabler, H. and Wächtler, M.
A NEW METHOD OF DETERMINING THE COMPONENTS OF RADIO BEARINGS FROM COHERENT WAVES (Ein Neuer Weg zur Ermittlung der Komponenten bei der Funkpeilung Kohärenter Wellen) tr. by D. A. Sinclair. 1959, 14p. 2 refs. Technical Trans. 819.
Order from NRCC $1.00 NRCC C-3098

Trans. of [ETZ] Elektrotech[nische] Z[eitschrift. Ausgabe A. Zentralblatt fur Elektrotechnik] (West Germany) 1958, v. 79, no. 11, p. 385-388.

A new method is reported by which it becomes possible to obtain bearings free from night effects by the use of three crossed-loop antennas in conjunction with a twin-channel visual direction finder. This is done by analysing the screen readings into their components. In principle such an arrangement opens the way to the erection of DF equipment on terrain which is unfavourable from the point of view of DF engineering.

Gavrilov, M. A.
ANALYSIS OF CONTACT RELAY SYSTEMS, tr. by Lyber Katz. [1959] 34p. (11 figs. omitted) 5 refs.
Order from SLA mi$3.00, ph$6.30 60-10899

Trans. of Elektrichestvo (USSR) 1947, no. 4, p. 5-13.

An objective structural method is described for analyzing contact relay circuits. Methods, based on the algebra of logic, are given for breaking the system up into elementary circuits, for locating in the system those circuits which act on specific relays or mechanisms, and for determining the interactions between the latter.

Golubyatnikov, N. G.
PRESERVATION OF MILK QUALITY USING SEMICONDUCTORS (THERMOELECTRIC REFRIGERATOR AND HEATER) (Sokhraneniye Kachestva Moloka pri Pomoshchi Poluprovodnikov; Termoelektrogenerator Kholoda-Nagrevatel'). [1959] [12]p. 7 refs. M 611.
Order from LC or SLA mi$2.40, ph$3.30 59-22637

Trans. of Vestnik Sel'[skokhozyaystvennoy] Nauki (USSR) 1958 [v. 3] no. 10, p. 99-103.

There are many methods of cooling milk, but all of them are either unprofitable in exploitation or insufficiently efficient, particularly in the Southern zone of the Soviet Union. The semi-conductor laboratory of the Agrophysical Research Institute has designed and offers for exploitation at farms a simple semiconductor thermoelectric cold generator and heater with convective counter-current heat exchange. The generator is operated by direct current by means of semiconductor rectifiers according to a one-phase two-semi-period scheme with a central point. This electric feeding can be carried out by means of a movable generator incorporated in the shearing device RCA-12. The use of the generator will make it possible to transport milk from the farm not in bins but in milk tanks directly to the consumer and not through the distribution center. This prevents losses in milk which sometimes amount up to 0.4 per cent. (Author)

Jakubowski, Janusz Lech.
ACHIEVEMENTS OF THE ELECTROTECHNICAL INSTITUTE IN WARSAW IN THE PAST TEN YEARS. 3 June 59, 17p. (27 figs. omitted) JPRS: L-1688-D.
Order from OTS $0.50 59-11635

Trans. of Problemy (Poland) 1955 [v. 11] no. 10(115), p. 681-694.

Kulikov, I. G.
NON-LAMELLAR STORAGE CELLS AND BATTERIES OF THE KNB TYPE. 9 Nov 59, 16p. (8 figs. omitted). JPRS: L-1931-D.
Order from OTS $0.50 59-31036

Trans. of mono. Akkumulyatory, Moscow, 1958, p. 87-106.

Kulikovskiy, A. A.
PARAMETERS OF A DETECTOR WITH SEMICONDUCTOR DIODE (Parametry Detektora s Polyprovodnikovym Diodom). Nov 59 [6]p. 2 refs. RTS no. 1170.
Order from LC or SLA mi$1.80, ph$1.80 59-22720

Trans. of *Elektrosvyaz' (USSR) 1958 [v. 12] no. 9, p. 71-73.

Siforov, V. I.
THE THEORY OF THE IDEAL CODING OF A BINARY TRANSMISSION. [1959] [10]p. 5 refs. M560.
Order from LC or SLA mi$1.80, ph$1.80 59-22685

Trans. of Radiotekhnika i Elektronika (USSR) 1956, v. 1, no. 4, p. 407-417.

The article sets the problem of finding quantitative relationships between interference-resistance, throughput and code parameters as applied to a binary transmission for ideal coding according to Shannon. On the basis of the general relationships for the probability of error in decoding with binary transmission, established by Barnard, asymptotic expressions of this probability are found. An approximate expression is obtained for the probability of error of decoding as functions of the probability of distortion of the elementary sending, the number of sendings in the code combination and the throughput of the system. A law of the distribution of probabilities of error of decoding is arrived at. It is proved that this law is approximately normal for a large number of sendings in the code group. On the basis of the established relationships an analysis is given of the influence of all the principal parameters of binary transmission on the probability of error of coding. (Author)

Thuy, Hans-Joachim.
THE GALVANOMAGNETIC AMPLIFIER [II]. [1959] 31p. 15 refs.
Order from SLA mi$3.00, ph$6.30 59-17482

Trans. of A[rchiv der] E[lektrischen] U[bertragung] (West Germany) 1954, v. 8, p. 269-278.

The principle of galvanomagnetic amplification shows a power amplification of already 14 db at 90°K for the preliminary devices. This power amplification compares with the power amplification of average point-contact transistors. With decreasing temperature the amplification increases rapidly according to expectation. At e.g. 20°K 31 db could be measured. This exceeds the power amplification of the most recent point-contact transistors (about 20 db). However, higher values of galvanomagnetic amplification can be expected. If the shortcomings with respect to geometry and choice of materials of the preliminary devices are corrected, the computation shows that power amplifications of 30 to 40 db at 90°K and 50 to 60 db at 20°K should be attainable. (The power amplification of usual electron tubes in the audio frequency range is 30 to 40 db for triodes and 45 to 55 db for pentodes.) The application of low temperatures can nowadays only under certain conditions be considered as an argument against the principle of galvanomagnetic amplification, since only by using low temperatures one is able to achieve excellent noise temperature factors and therefore to keep the intrinsic noise level of the amplifier low. (Author)

Mechanical Engineering

ENERGETIK (USSR) 1959, NO. 11, P. 1-40 (Power Engineer). [1959] 1v. SOV-91-59-11-(1-27/27.

Order from OTS $0.60, $3.50/6 mo. PB 141 084T-22
Foreign $0.85, $5.00/6 mo.

Consists of abstracts in English.

UTILIZATION OF SOLAR ENERGY. Papers presented at Symposium 1. [1959] [334]p. 96 refs.
F-TS-9651/V.
Order from LC or SLA mi$11.10, ph$51.60 60-13558

Trans. of mono. Ispol'zovaniye Solnechnoy Energii, Moscow, 1957.

Contents:
Possibilities of the utilization of solar energy, by V. A. Baum
Fluctuations in the amount of heat from the radiation of the sun and sky and the distribution of the energy from that radiation in daytime, for Tashkent, by N. Yaroslavysev
Coefficient of the interception by a receiver of radiation reflected from parabolic-cylindrical and paraboloid mirrors, by V. B. Veynberg
The spectral characteristics of solar radiation receivers, by B. V. Veynberg
Investigating the reflecting surfaces of solar installations, by B. A. Garf, M. S. Borozdina, and N. B. Rekant
Rotation mechanisms for portable solar units, by B. A. Garf
High power solar installations, by R. R. Aparisi, V. A. Baum and B. A. Garf
Special technological features in the manufacture of reinforced concrete paraboloid mirror reflectors for solar installations and some indexes of their operation, by G. I. Markov
Thermotechnical tests of a solar paraboloid installation for the production of steam, by B. K. Kozlov, F. F. Bogdanov, Ya. G. Kolos, and G. I. Markov
Testing a solar refrigerator, by P. M. Brdlik
Heating buildings by solar radiation, by D. M. Shchegolev
Testing and designing solar desalination installations, by P. M. Brdlik
An experimental installation for the receipt of high temperatures, by R. R. Aparisi
A small solar cooker, by B. A. Garf
A parabolic-cylindrical installation with a productivity of 40 liters of boiling water per hour, by B. A. Garf and R. K. Khuntsariya
Method for calculating solar water heaters, by B. V. Petukhov
Tests on solar water heaters in Tashkent in 1952-1953, by G. I. Markov and N. B. Rekant
Coefficient of shading of direct solar radiation by the glass casement of a helio receiver and the quantity of direct solar radiation incident on the receiver, by G. I. Markov
Technical and economic indicators of solar installations, by S. G. Poyarkov
The possibilities of using solar energy for drying fruits and vegetables, by A. A. Ismailova

Khasilyev, V. Y.
EFFICIENCY OF PARALLEL OPERATION OF THERMAL-ELECTRIC STATIONS OF THE SAME

TYPE (Energeticheskaya Effektivnost Parallelnoy Rabotuy Odnotipnyuikh TETS) tr. by G. N. Gibson. [1959] [8]p. 1 ref. Library Communication no. 561; TL 1161a; M262.
Order from LC or SLA mi$1.80, ph$1.80 59-19141

Trans. of Akademiya Nauk SSSR. Doklady, 1949, v. 68, no. 2, p. 297-300.

It is shown that under certain conditions an important degree of efficiency is obtainable with parallel operation of thermal-electric stations of the same type. At the same time, a general method of evaluating approximately the efficiency of parallel operation as regards heat of different heat-generating equipment is described.

FOOD, HANDLING, AND PACKAGING EQUIPMENT

Food

BELGIAN PREPARED COLLECTIVE 5/1 RATIONS. [1959] 5p. H-2834 A.
Order from LC or SLA mi$1.80, ph$1.80 59-16289

Trans. of mono. Rations Conditionnees Collectives Belges 5/1, Brussels, 1958.

This ration, which is described in detail, consists of canned food necessary for the feeding of 5 men during a period of 24 hours, as well as various items such as soap and cigarettes. The menus have been selected to suit the taste of the Belgian soldier. The package is described as "the best method of preserving the rations from the effects of thermo-nuclear weapons."

Catel, W. and Zenker, L
THE EFFECT OF FREEZING RAW HUMAN MILK ON ITS UTILIZATION AND DIGESTABILITY IN THE PREMATURE INFANT. [1959] 10p. 2 tables. 1 ref.
Order from SLA mi$1.80, ph$1.80 60-10611

Trans. of Deutsche Medizinische Wochenschrift (Germany) 1940, v. 66 [no. 35] p. 959-962.

Chizhov, G. B.
THE NATURE OF THE CONNECTION BETWEEN THE RATE OF HEAT REMOVAL AND MOISTURE MIGRATION IN THE QUICK-FREEZING OF FOODSTUFFS (O Prirode Svyazi Mezhdu Skorost'yu Otvoda Tepla i Peremeshcheniyem Vlagi pri Zamorazhivanii Pishchevykh Produktov) tr. by M. Slade. [1959] 2p. Trans. no. 4012.
Order from LC or SLA mi$1.80, ph$1.80 59-19603

Trans. of Tekhnologicheskiy Institut Kholodil'noy Promyshlennosti. Trudy (USSR) 1956, v. 10, p. 33.

Erdheim, Eduard.
BLEACHING OF FAT ACIDS WITH BLEACHING EARTH, tr. by P. M. M. 28 Dec 50, 6p.
Order from SLA mi$1.80, ph$1.80 60-10524

Trans. in manuscript of Allg[emeine] Öl- u[nd] Fett-Z[ei]t[un]g (Germany) 1941, v. 38, p. 360-361.

Gernhardt, L.
COLORING OF FOODSTUFFS. [1959] 1p.
Order from SLA mi$1.80, ph$1.80 60-10810

Trans. of Deutsche Lebensmittel-Rundschau (West Germany) 1948, v. 44, p. 197.

This brief statement relates to discolorations in stored or preserved food caused by oxidation, chemical properties of container, etc.

Ivanova, G. A. and others.
CONTINUOUS PRODUCTION OF DEHYDRATED MEAT, NOT REQUIRING COOKING (Potochnaya Liniya Proizvodstva Sushenogo Myasa, ne Trebuyushchego Varki) tr. by J. Hardy. [1959] 4p. (1 diagr. omitted) Trans. no. 4097.
Order from LC or SLA mi$1.80, ph$1.80 59-19608

Trans. of Konservnaya i Ovoshchesushil'naya Promyshlennost' (USSR) 1958 [v. 13] no. 5, p. 6-7.

Metlitskiy, L. V. and Tsekhomskaya, V. M.
FUNCTIONAL DISORDERS OF APPLES DURING STORAGE AND COUNTERMEASURES (Funktsional'nyye Rasstroystvo u Yablok pri Khrenenii i Mery Bor'by s Nimi) tr. by M. Scott. Apr 59, 14p. (refs. omitted). M. 413.
Order from LC or SLA mi$2.40, ph$3.30 59-22481

Trans. of Biokhimiya Plodov i Ovoshchey (USSR) 1958, v. 4, p. 42-50.

MACHINERY, FABRICATION, AND ACCESSORY EQUIPMENT

AUTOMATIC CONTROL OF DIMENSIONAL ACCURACY DURING GRINDING. [1959] [1]p. M 603.
Order from LC or SLA mi$1.80, ph$1.80 59-22645

Partial trans. (table of contents) of mono. Avtomaticheskoye Obespecheniye Tochnosti Razmeroc pri Shlifovanii, Moscow. 1958.

USSR INDUSTRIAL EQUIPMENT (TRANSPORTATION, CONSTRUCTION, PRODUCTION, AND POWER MACHINERY) [NO. 18, 22 JAN 60]. [1960] [35]p. 81 refs.
Order from LC or SLA mi$3.00, ph$6.30 60-13543

Trans. of unevaluated information selected from Russian-language publications.

See also 60-13055, 60-13268, 60-22265

Ambros, D.
NEW ICE-SHEARING MACHINE (Novaya Mashina dlya Skalyvaniya L'da) tr. by C. T. Cranford. Apr 59 [2]p. Library Communication no. 735; M511.
Order from LC or SLA mi$1.80, ph$1.80 59-22559

Trans. of Avtom[obil'nyye] Dorogi (USSR) 1959, v. 22, no. 1, p. 10.

A machine for shearing ice from the carriageway of a road has been designed and constructed by the chief mechanical engineer of the Tallinn Road and Bridge Trust, (see illustration). It is operated from an S-80 tractor. The kinematic set-up of the machine is constructed in imitation of the movement of a man shearing ice. By means of 12 detachable picks of various shapes, the machine shears the ice and removes the pieces from the cleared strip of road by means of a special caterpillar track which moves across the centre line of the road. A hydraulic gear in the driver's cabin regulates the depth of cut; the normal shearing depth is 12 to 15 cm; the minimum is 3 cm and the maximum 40 cm. The operating section of the machine is 2.5 metres wide and has a speed (when the tractor is in first gear) of 2.2 km/h. The ice-shearing machine has a performance of 5,500 sq. metres/h and does the work of 687 men with ice 10 cm thick. On urban streets the (machine) shearing of ice is 65 times cheaper than (clearing) by hand. During March-April 1958 the machine was working on streets in the city of Tallinn, and showed good results. The application of the machine is particularly effective for clearing away compacted and condensed snow. (The translation is presented here in its entiretv)

Baumann, Werner.
CIRCULAR SAW BLADES AND THE FORCES THEY EXERT ON THE WOOD. (Kreissägeblätter und ihre Kräfteeinwirkungen auf das Holz) tr. by H. E. Kijlstra. [1959] [15]p. Trans. no. 1819.
Order from SLA mi$2.40, ph$3.30 60-10921

Trans. of Holz als Roh- und Werkstoff (West Germany) 1951, v. 9, no. 11, p. 427-431.

For each of the many types of circular saw blades marketed at the present time there is a special characteristic disposition of the forces in sawing. One should always try to work with those blades which give the lowest horizontal force consistant with the requirements of the cut desired, and consequently which have a correspondingly large vertical force component. This component should never be directed upwards. A slight correction may under certain circumstances be applied by changing the position angle or the relative position of sawblade with respect to wood. Longitudinal cuts provide a much more favourable cutting force distribution horizontally and vertically from a point of view of the economic use of energy than sawing at right angles to the grain; here it is necessary, in order to obtain a clean cut, to make the horizontal component and consequently the force with which the wood is fed, as large as possible. It is further shown that only brand new or adequately sharpened blades make a check of the nature and the distribution of the cutting forces possible, and never those that are simply filed down by hand. (Author)

Bershadskiy, A. L.
HIGH SPEED SAWING WITH REDUCED POWER CONSUMPTION (Skorostnoye Rezaniye a Ponizhennym Potrebleniyem Energii) tr. by M. Slade. [1959] [15]p. Trans. no. 1637.
Order from SLA mi$2.40, ph$3.30 60-10936

Trans. of Lesnaya Promyshlennost' (USSR) 1951, v. 11[29] no. 5, p. 25-28.

Krakinovskiy, L. M.
CHOOSING THE BEST SHAPE FOR THE OUT-OF-BALANCE WEIGHTS OF VIBRATING SCREEDS (O Vybore Optimal'noy Formy Dobalanzov Vibratorov Vibroploshchadok) tr. by R. C. Halsall. Apr 59 [8]p. Library Communication no. 723; M514.
Order from LC or SLA mi$1.80, ph$1.80 59-22562

Trans. of Stroi[tel'noye] i Dorozh[noye] Mashinostroyeniye (USSR) 1958, v. 3. no. 12, p. 12-14.

The parameters of the out-of-balance weights are determined by which a minimum value of the moment of inertia is obtained for a given value of the static moment.

Zuyev, V. V.
DESTRUCTION OF THE SUBMERGED RUNNER OF A LARGE FRANCIS TURBINE BY CAVITATION (Kavitatsionnyye Razrusheniya na Podtoplennom Rabochem Kolese Krupnoy Radial'no-Osevoy Turbiny). [1959] [3]p. M631.
Order from LC or SLA mi$1.80, ph$1.80 59-22621

Trans. of Elektricheskiye Stantsii (USSR) 1958, v. 29, no. 3, p. 87.

The submerged runner of a radial-axial water-turbine possesses good cavitation properties; these make it possible to extend the periods between overhauls and to reduce the time and labour necessary for overhaul. (Author)

Engines and Propulsion Systems

Gil'zin, K.
ON THE RELIABILITY OF ROCKET SYSTEMS; NOTES ON NEW PROBLEMS OF SCIENCE AND TECHNOLOGY, tr. by S. Soudakoff. 18 Nov 59, 4p.
Order from LC or SLA mi$1.80, ph$1.80 60-10739

Trans. from [Sovetskaya Aviatsiya] (USSR) 1959, 26 Sep.

Only absolute reliability and freedom from failure of any given part, of any given element, even the smallest and most insignificant, can constitute the basis of success. But of course nothing is "absolute", and for that reason there is no such thing as hundred percent success in rocket lauching. Thus, according to the attestations of that same American press, almost half of the military ballistic missiles tested in the USA blow up, get off course and misfire. In 95 firings of long and medium range ballistic missiles in the USA, 42 of the tests ended in total or partial failure (there are circumstances when a "partial" failure differs in no way from a total failure). Two of the latest failures of this kind which were reported in the American press occurred already after the flight of our "lunik". In 14 of 22 attempts to launch artificial satellites, the satellites failed to go into orbit. Only one attempt out of five to launch rockets into outer space was successful (and even then only partially). It turned out that either one or another "trifle" proved to be fatal. The American scientists have not as yet been able to overcome this "reliability barrier"... Without absolute certainty of success, without firm confidence in the reliability of the entire rocket system and each one of its parts, no attempt at launching should be made. This faith in their ability, in the reliability of their technology, the Soviet scientists, technicians and workmen have gained through persistent work, by overcoming difficulties, and by searching for the best, the only dependable solutions. This attests to the maturity of Soviet rocket technologists, whose work has received recognition and high evaluation not only in our country, but also in the entire world. (Extracted from the report)

Markov, N. M.
INVESTIGATION OF TURBINE FLOW-PASSAGES. [1959] 2p. M 604.
Order from LC or SLA mi$1.80, ph$1.80 59-22644

Partial trans. (table of contents) of mono. Issledovaniye Protochnoy Chasti Turbin [Moscow] 1958.

Machine Parts and Mechanisms

Mekhontsev, Yu.
METER FOR MEASURING ELASTIC STRESSES (Izmeritel' Uprugikh Napryazheniy) tr. by S. E. [1959] 8p. (5 figs. omitted). H-3741 B.
Order from OTS $0.50 59-21158

Trans. of Radio [Moscow] (USSR) 1958, no. 5, p. 51-53.

An instrument is described which was designed to measure the magnetic anistropy in the surface layers of metal.

Yan'shin, B. I.
BUTTERFLY VALVES FOR HIGH HEADS (Diskovyye Zatvory dlya Vysokikh Naporov). Oct 59 [18]p. 6 refs. RTS no. 1085.
Order from LC or SLA mi$2.40, ph$3.30 59-22402

Trans. of Energomashinostroyeniye (USSR) 1958 [v. 4] no. 11, p. 20-24.

The paper describes the results of an investigation carried out on air models with the object of determining the best aerodynamic form of valve components which ensures low coefficients of resistance of the open butterfly valve. (Author)

Zunker, P.
ATTEMPTS TO DEVELOP A BEARING METAL ON A LEAD BASE [PTS. 1-2]. [1959] [41]p. 16 refs.
Order from SLA mi$3.30, ph$7.80 60-10891

Trans. of Metallwirtschaft [Metallwissenschaft, Metalltechnik] (Germany) [1940] v. 19, no. 12/13, p. 223-230 and p. 247-251.

Manufacturing Equipment and Processes

BYULLETEN' IZOBRETENIY (USSR) 1959 (Bulletin on Inventions). [1959]
Order from OTS $1.90, $10.00/6 mo.
Foreign $2.15, $11.50/6 mo.

No. 3, p. 5-80, PB 141 014T-15
No. 7, p. 5-75, PB 141 014T-13
No. 11, p. 2-68, PB 141 014T-14

Consists of abstracts in English.

INSTRUMENT CONSTRUCTION, 1959, NO. 1. [1959] 37p.
Order from TF $2.15, $17.10/year

Trans. of Priborostroyeniye (USSR) 1959, no. 1 [p. 1-33].

LITEYNOYE PROIZVODSTVO (USSR) 1959, NO. 11, P. 1-48 (Foundry Practice). [1959] 1v. SOV-128-59-11-(1-24)/24.
Order from OTS $0.50, $3.00/6 mo. PB 141 130T-18
Foreign $0.75, $4.50/6 mo.

Consists of abstracts in English.

MASHINOSTROITEL' (USSR) 1959, NO. 9, P. 1-47 (Machine Builder). [1959] 1v. SOV-117-59-9-(1-50)/50.
Order from OTS $0.50, $3.00/6 mo. PB 141 116T-18
Foreign $0.75, $4.50/6 mo.

Consists of abstracts in English.

OXY-ARC CUTTING OF CARBON STEEL (Kislorodno-Dugovaya Rezka Uglerodistoy Stali). Oct 59 [4]p. RTS no. 1203.
Order from LC or SLA mi$1.80, ph$1.80 59-22253

Trans. of Avtomobil'nyy Transport (USSR) 1958, v. 36, no. 9, p. 28-29.

A method of oxygen cutting with arc heating, in which ordinary electrodes are used, is announced. This method reduces the labour and material consumption in cuts of short length for welding.

*PRIBOROSTROYENIYE (USSR) 1959 (Instrument Manufacture). [1959]
Order from OTS $0.50, $3.00/6 mo.
Foreign $0.75, $4.50/6 mo.

No. 9, p. 1-32, PB 141 119T-21
No. 10, p. 1-32, PB 141 119T-22

Consists of abstracts in English.

*SVAROCHNOYE PROIZVODSTVO (USSR) 1959, NO. 11, P. 1-48 (Welding Practices). [1959] [22]p. SOV-135-59-11-(1-2f)/26.
Order from OTS $0.50, $3.00/6 mo. PB 141 138T-22
Foreign $0.75, $4.50/6 mo.

Consists of abstracts in English.

USSR ELECTRONIC AND PRECISION EQUIPMENT [NO. 17, 11 JAN 60]. [1960] [37]p. 97 refs.
Order from LC or SLA mi$3.00, ph$6.30 60-13421

Trans. of unevaluated information selected from Russian-language publications.

Contents:
Items of special interest
New radiotelescope
Transistor limitations
Mica-trimming machine
Sale of consumer goods by institute
Plants
Shortages and deficiencies
New Plants
Local production and administration
Stalinskiy Sovnarkhoz
Azerbaydzhan Sovnarkhoz
Lithuanian Sovnarkhoz
Khar'kovskiy Sovnarkhoz
L'vovsiy Sovnarkhoz
Estonian SSR
Electronic equipment
General
Prices
Radio relay lines
Bulbs and tubes
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Recording equipment
Telephone equipment
Plant operations and organization
Computers
Instrument making
Institutes
Industrial controls
Geophysical instruments
Electrical instruments
Other instruments
Medical apparatus
Photographic and motion-picture equipment
Electrical products
Process engineering
Cable industry
Batteries
Voltage regulators and transformers
Personnel
Plant locations
(See also 60-13069)

USSR MATERIALS AND MATERIALS PROCESSING EQUIPMENT [NO. 17, 15 JAN 60]. [1960] [46]p. 97 refs.
Order from LC or SLA mi$3.30, ph$7.80 60-13544

Trans. of unevaluated information selected from Russian-language publications.

See also 60-13033, 60-13156, 60-15102

WELDING PRODUCTION, 1959 [NO. 4]. Sep 59, 137p.
Order from BWRA $16.00/year

Trans. of Svarochnoye Proizbodstvo (USSR) 1959 [no. 4, p. 1-48].

Aleksandrov, V. P. and Zolotykh, B. N.
SELECTION OF OPTIMUM CONDITIONS FOR THE WORKING BY THE ELECTRIC SPARK METHOD OF NICKEL BASE CREEP-RESISTING ALLOYS [O Vybore Optimal'nykh Rezhimov pri Obrabotke Elektroiskrovym Metodom Zharoprochnykh Splavov na Nikelevoy Osnove]. [1959] 2p. (2 figs. omitted). M564.
Order from LC or SLA mi$1.80, ph$1.80 59-22682

Trans. of A[kademiya] N[auk] SSSR. Otdeleniye Tekhnicheskikh Nauk. Izvestiya, 1958, no. 6, p. 99-100.

The working of such alloys must be carried out on pulse durations not exceeding 200 μsec. This makes it possible to eliminate microcracks in the surface layer and diffusion along the grain interfaces, and when desirable to have only a small fused layer in the finished component--to reduce greatly the allowance for the finishing working.

Arutyunov, K.
PROBLEMS OF THE DEVELOPMENT OF SOVIET INSTRUMENT MANUFACTURE (Voprosy Razvitiya Sovetskogo Priborostroyeniya). [1959] 21p. M 609.
Order from LC or SLA mi$2.70, ph$4.80 59-22639

Trans. of Planovoye Khozyaystvo (USSR) 1958, no. 8, p. 29-39.

At the present time, in instrument manufacture, there is no definite order and co-ordination in the work of the various organizations on the development of instruments and automation equipment. (Extracted from the report)

Gintsburg, Ya. S.
RELAXATION TESTING OF MODEL BOLTED CONNECTIONS (K Voprosu ob Ispitanii na Relaksatsiyu Modeley Boltovykh Soyedinenii). [1959] [4]p. (foreign text included) 3 refs. M 635.
Order from LC or SLA mi$1.80, ph$1.80 59-22617

Trans. of Zavodskaya Laboratoriya (USSR) 1956, v. 22, no. 5, p. 584.

The method of T. I. Volkova et al. (Zavodskaya Lab. 19: 5, 1953) for carrying out stress-relaxation tests on model bolts under tension does not fulfil its purpose, since it does not give sufficiently reliable characteristics (even qualitatively). (Author)

Hoermann, E.
TUBE WELDING BY RESISTANCE AND INDUCTION HEATING. [1959] 37p. (74 figs. 4 formulae omitted) 1 ref.
Order from SLA mi$3.00, ph$6.30 60-10937

Trans. of International Congress of Electro- Heat [held at] Stresa, Italy, 25 May 59. Rept. IV/12.

Machu, W.
ELECTROLYTIC CLEANING, PARTICULARLY PICKLING OF METALLIC OBJECTS. [1959] 30p. 124 refs.
Order from SLA mi$2.70, ph$4.80 60-10732

Trans. of Korrosion und Metallschutz (Germany) 1939 [v. 15] Apr, p. 105-121.

Tsalyuk, M. and Yudenkov, I.
ULTRASONIC SOLDERING IRON (Ul'trazvukovoy Payal'nik) tr. by S. E. [1959] 6p. H-3741 C.
Order from OTS $0.50 59-21159

Trans. of Radio [Moscow] (USSR) 1958, no. 5, p. 54-55.

Ultrasonic soldering iron UZPU-5, designed for tinning and soldering of parts made of aluminum and its alloys with soft solder, was developed in the Ultrasonics Laboratory of Kiev Hydroelectric Power Station 2. An original excitation system made it possible to simplify the oscillator and soldering iron design to a great extent, compared with previous ultrasonic soldering irons.

Vladziyevskiy, A.
TECHNICAL AND ECONOMICAL EFFECTIVENESS OF AUTOMATIC PRODUCTION LINES. [1959] 23p. M610.
Order from LC or SLA mi$2.70, ph$4.80 59-22638

Trans. of Planovoye Khozyaystvo (USSR) 1958, no. 7, p. 32-44.

Zaslavskiy, M. L.
PRESSURE DIE CASTING UNDER VACUUM. Jan 60, 2200 words.
Order from HB $4.40 HB-4612

Trans. of Liteynoye Proizvodstvo (USSR) 1958, no. 7, p. 6-8.

General advantages of use of vacuum in pressure die casting, reported on basis of practical experiences gained at several plants. Four methods of evacuating the air: (1) only from die; (2) from die and ejector base; (3) from the entire space between platens; (4) from casing surrounding the die and moveable part of machine. Setups for methods 1 and 2; alternative design. (HB abstract)

Zhukov, A. M.
THREAD CUTTING. [1959] 2p. M 602.
Order from LC or SLA mi$1.80, ph$1.80 59-22646

Partial trans. (table of contents) of mono. Narezaniye Rez'by [Moscow] 1957.

Transport, Traction and Hoist Facilities

TRAFFIC SAFETY EQUIPMENT AND COMMUNICATIONS ON THE RAILWAYS OF THE CHINESE PEOPLES REPUBLIC. 15 May 59, 5p. JPRS 720-D.
Order from OTS $0.50 59-11548

Trans. of Przeglad Kolejowy Elektrotechniczny (Poland) [1956, 1957?] no. 7, p. 158-160.

TRANSPORTATION, COMMUNICATIONS, AND ELECTRIC POWER IN THE USSR [NO. 24, 21 JAN 60]. [1960] [42]p. 65 refs.
Order from LC or SLA mi$3.30, ph$7.80 60-13545

Trans. of unevaluated information selected from Russian-language publications.

See also 59-22186, 60-13054, 60-13155

Selifonov, V.
PERSPECTIVES OF DEVELOPMENT OF THE AUTOMOTIVE INDUSTRY IN THE USSR (Perspektivy Razvitiya Avtomobil'noy Promyshlennosti v SSSR) tr. by Stephen Evanusa. [1959] 7p.

H-3522 A.
Order from OTS $0.50 59-21210

Trans. of Avtomobil'nyy Transport (USSR) 1958 [v. 36] no. 12, p. 4-5.

MATERIALS

Budnikov, P. P. and Goldenberg, I. G.
THE BEHAVIOUR OF SULPHATED HIGH-ALUMINA CEMENT EXPOSED TO CHEMICAL AGENTS, tr. by G. N. Gibson. Jan 50, 9p. 17 refs. Library Communication no. 375; M239.
Order from LC or SLA mi$1.80, ph$1.80 59-19129

Trans. of Zhurnal Prikladnoy Khimii (USSR) 1947, v. 20, no. 11, p. 1115-1159.

Tests showed that the bond between the reinforcement and ordinary high-alumina cement concrete and between the reinforcement and sulphated high-alumina cement concrete is the same when storage takes place at ordinary temperature. At the higher storage temperature, however, the strength of concrete made with ordinary high-alumina cement and its bond with the reinforcement showed a marked decrease. The strength of the sulphated high-alumina cement concrete and its bond with the reinforcement not only did not decrease in the higher storage temperature but even increased somewhat. In order to determine whether corrosion of the reinforcement takes place some of the cubes were stored for a prolonged period. After 18 months storage the cubes were broken. The reinforcement which had been freed from rust before embedding in concrete showed no signs of corrosion. (Extracted from the report)

Ponomarev, K. K.
THE EFFECT OF A NUCLEAR EXPLOSION ON FERROCONCRETE CONSTRUCTIONS. 25 May 59, 10p. (14 figs. omitted) 12 refs. JPRS: L-1679-D.
Order from OTS $0.50 59-11586

Trans. of Stroitelstvo (Bulgaria) 1959, no. 1, p. 9-13.

Ceramics and Refractories

STEKLO I KERAMIKA (USSR) 1959 [VOL. 16] (Glass and Ceramics). [1959]
Order from OTS $0.60, $3.50/6 mo.
Foreign $0.85, $5.00/6 mo.

No. 10, p. 1-48, PB 141 068T-20
No. 11, p. 1-48, PB 141 068T-21

Consists of abstracts in English.

Acloque, P[aul].
THE PROBLEM OF DETERMINATION OF DIRECTION AND INTENSITY OF STRAINS IN SELF-CONTRACTED GLASS. Dec 59, 25p. 5 refs.
Order from SLA mi$2.70, ph$4.80 60-14046

Trans. of Verres et Refractaires (France) 1955, v. 9, no. 1, p. 3-12.

After defining self-contraction of a glass, where ordinary tempering is merely a special case, after showing the drawbacks of customary checking of industrial, tempered glass, the author describes two new methods providing further information on the phenomena studied: (1) The method of surface refractometry, recently perfected by Professor Orowan, which merely gives the surface strain and requires very sensitive matching; and (2) The method of separating strains, measuring birefringence under oblique incidence of the light, perfected by the author. This is a method of oblique polariscopy not giving only the gross strain, not balanced within the thickness, but accommodating by summation though the strain gradient is poor. The equipment used for this second method is very simple. Use of both methods eliminates most of the ambiguities from the interpretation of self-contraction of glass. (Author)

Boucard, J. and Cotton, P.
PROCEDURE FOR MAKING REFRACTORY METALS IN POWDER FORM (Procédé pour la Fabrication de Métaux Réfractaires en Poudre). [1959] [12]p. (1 fig. omitted).
Order from LC or SLA mi$2.40, ph$3.30 59-16364

Trans. of Belgian patent 535043, appl. 21 Jan 55, limited patent accorded 15 Feb 55, printed and pub. 21 Nov 58, 5p. (appl. in France 26 Jan 54) by Compagnie Française des Carbures de Calcium, Paris.

The process for making refractory metals (in particular chromium, titanium, and zirconium) is characterized by the reaction of the carbide of calcium and of the nonvolatile metallic compounds, such as the oxides, sulfides, oxidized or sulfureted ores of these metals. The reaction takes place in the presence of a flux, and at a much lower temperature than that at which the metal to be produced is melted.

Fuels, Lubricants, and Hydraulic Fluids

Dintses, A. I. and Druzhinina, A. V.
SYNTHETIC LUBRICATING OILS. Aug 59 [384]p. 1162 refs. F-TS-9719/V.
Order from LC or SLA mi$11.10, ph$59.10 60-13300

Trans. of mono. [Sinteticheskiye Smazochnyye Masla, Moscow, 1958, 350p].

The book presents in a generalized form reference data on synthetic lubricating oils intended for different instruments and engines operating at high and low temperatures, under high loads in friction units, in

high vacuum, etc. An examination is made of synthetic hydrocarbon oils, polysiloxane liquids (silicones), esters of carboxylic acids, polyalkylene glycols, fluoro- and chlorfluorocarbons, and additives used in the preparation of lubricating oils. A brief presentation is made of the methods of preparing the compounds of the classes indicated and their physical and chemical characteristics. The book is intended for specialists engaged in the selection, synthesis, and application of lubricating materials for instruments and machines operating under conditions of high and low temperatures and high loads. The book will also be useful for students who are specializing in the development and application of lubricating materials. (Author)

Levay, Andras.
THE LONG RANGE ENERGY PROBLEMS OF HUNGARY. 18 June 59, 28p. JPRS: L-1140-D.
Order from OTS $0.75 59-11581

Trans. of Kozgazdasagi Szemle-(Hungary) 1958, v. 5, no. 8/9, p. 885-903.

Leather and Textiles

BAYER BRINGS SPUN(JET)-DYED PERLON STAPLE FIBRE. [1959] 3p.
Order from SLA mi$1.80, ph$1.80 60-10791

Trans. of Zeitschrift für die Gesamte Textil-Industrie (West Germany) 1954, v. 56, no. 4, p. 195.

An encomium.

Bandel, Werner.
THE VISCOSITY BEHAVIOR OF VISCOSES - A DISCUSSION OF BRANDENBURGER'S PAPER "INVESTIGATIONS OF VISCOSE RAYON STAPLE FIBERS", tr. by H. T. Reed. July 55 [11]p. 3 refs.
Order from SLA mi$2.40, ph$3.30 60-10771

Trans. of Melliand Textilberichte (West Germany) 1955, v. 36, no. 5, p. 427-431.

Some factors influencing the viscosity behavior of industrial viscoses during the degrading of xanthates in second aging are pointed out. If the viscose composition is the same, the initial viscosity is found to be the decisive factor as far as the temporary decline in viscosity during second aging is concerned, as well as what regards the percentage-wise decrease and increase of the descending and ascending branches of the viscosity curve. Mixed viscoses, if their composition is the same, also behave according to their initial viscosity. Identical second aging viscosity behavior of the most varied viscoses can be obtained through suitable changes in the DP of the cellulose and adjustment for the same initial viscosity, if the proportion of "cellulose : NaOH : CS_2" is the same. On the other hand, the NaOH content of the viscoses was found to be of decisive importance for the location and magnitude of the viscosity minimum, as well as for the second aging viscosity behavior. As was expected, no influence of the second aging temperature on the viscosity behavior could be found. No advantages of a technical nature having regard to viscosity could be obtained from the mixing of alkali celluloses of different stages of aging. It is shown how the viscosity of mixed viscoses can be computed from the mixing components analogous to the law of Hess and Philippoff (Z. Physik Chem. Leipzeg B31 : 237, 1936) (Author)

Fedorov, L. A.
EGYPTIAN TEXTILE INDUSTRY (Egipetskaya Tekstil'naya Promishlennost') tr. by Vawryk. [1959] [8]p. 6 refs. H-4017 C.
Order from OTS $0.50 59-21196

Trans. of Tekstil'naya Promyshlennost' (USSR) 1958 [v. 18] no. 9, p. 63-65.

Hevesi, Anton.
EGG YOLK AND EGG OIL IN THE LEATHER INDUSTRY. [1959] 15p. 38 refs.
Order from SLA mi$2.40, ph3.30 60-10516

Trans. of der Gerber (Austria) 1935, v. 61, p. 43-44 and 49-51.

Despite all endeavors egg yolk remains an important indispensable constituent of the manufacture of fine leathers.

Kanmer, G. Ts., Nekrasova, T. A., and Golosenko, O. M.
THE MANUFACTURE OF ARTIFICIAL THREADS (Proizvodstvo Iskusstvennogo Volokna) tr. by Vawryk. [1959] [5]p. 9 refs. H-4017 A.
Order from OTS $0.50 59-21220

Trans. of Tekstil'naya Promyshlennost' (USSR) 1958 [v. 18] Sep, p. 16-17.

It has been established that hydrophalic metal containing mono-azo dyes with a complex of 1 : 2, possess good solubility in acetone and increased stability of dyes. The solubility of these dyes in acetone consists in the middle 10%. The quantity of the dye, introduced unto the spinning solution can reach 2.5% of the weight of acetyl cellulose. (Author's conclusions)

Klemin, N. G. and Moriganov, P. V.
DYEING OF WOOL AND HALFWOOLEN FABRICS WITH SULFEROUS DYES IN TRETHANOL AMIN AGENTS (Krasheniye Shersti i Polusherstyanikh Tkanyey Sernistimi Krasitelyami v Srede Triyetanolamina) tr. by Vawryk. [1959] [8]p. 16 refs. H-4017 B.
Order from OTS $0.50 59-21221

Trans. of Tekstil'naya Promyshlennost' (USSR) 1958 [v. 18] no. 9, p. 44-47.

Wool and half woolen fabrics one could effectively

dye with sulfurous dyes in fluids of tri ethanol amin, with the utilization of rongalite and sodium bisulfate at pH= 9 ÷ 10.2, temperature at 65 to 70 degrees, in a course of 20 to 30 minutes in strand vats. In all cases during the conditions of careful subsequent washing of half woolen fabrics or wool, result dyes, stable to all kinds of effects, among them, to friction and light weather. By the worked out method in half woolen fabrics, simultaneously dye not only wool, viscose, and cuprammonium fibers, but also burs. The proved possibility of dyeing of fabrics with strands, owing to the high stability of the solutions of leuco containing sulfurous dyes, in fluid of tri ethanol amin and rongalite in relation to atmospheric oxygen. The proposed method of dyeing can be extremely economically effective, for half woolen fabrics of lines of sorts. It is proper to expect even a larger effect from the use of the worked out method for the dyeing of half woolen fabrics on conduit apparatuses, whose utilization, in woolen factories, is expanded with every year. (Author's conclusions as translated)

Sippel, A.
HOW CAN THE DAMAGING EFFECT OF SUNLIGHT ON TEXTILE FIBERS BE AVOIDED? tr. by Helen T. Reed. May 55 [10]p. 10 refs.
Order from SLA mi$1.80, ph$1.80 60-10871

Trans. of Textil-Praxis (West Germany) 1955 [v. 10] p. 220-223.

Photographic Materials

Anfilov, L. V. and Fridkin, V. M.
THEORY OF THE DEVELOPMENT OF THE LATENT ELECTROPHOTOGRAPHIC IMAGE. [1959] 5p. 7 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-14000

Trans. of Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii (USSR) 1959, v. 4, no. 1, p. 32-34.

An equation is derived from which the time necessary for complete development can be determined. The equation shows that complete development starts as a result of the recombination of oppositely charged and dielectric particles at the moment when the charge density on the dielectric surface becomes zero. The time of complete development is determined only by the properties of the developer.

Meyklyar, P. V.
WORK OF SOVIET SCIENTISTS IN THE FIELD OF THE PHOTOGRAPHIC EFFECT OF LIGHT ON EMULSIONS. [1959] 21p. 95 refs.
Order from LC or SLA mi$2.70, ph$4.80 60-14001

Trans. of Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii (USSR) 1957, v. 2, no. 6, p. 459-468.

The present review is a continuation of the previous review on the work done in the field of the effect of light on silver halide crystals (59-17636). No work in the field of sensitometry is covered by this review.

Pokrovskaya, K. I.
REACTION OF THIOCYANINES WITH SILVER IONS IN SOLUTION. [1959] 4p. 3 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10876

Trans. of Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii (USSR) 1959, v. 4, no. 2, p. 133-135.

The tendency of thiocyanines to react with silver ions in solution increased parallel with the increase in their degree of basicity analogously with polymethine dyes which were investigated before. All thiocyanines II which form silver complex compounds had an appreciable tendency to form fog on photographic emulsions. For the majority of thiocyanines the complex formation reaction was reversible. This process was irreversible for all the pyridine II derivatives studied. The titration curve of symmetric pyrido thiocyanine had a two-step character, indicating the formation of two compounds with different dissociation constants.

Varshaver, B. G., Broun, Zh. L., and Chibisov, K. V.
SPECTRAL PROPERTIES OF OPTICALLY NON-SENSITIZED PHOTOGRAPHIC EMULSIONS. [1959] 6p. 15 refs. T-2983.
Order from LC or SLA mi$1.80, ph$1.80 60-10353

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 126, no. 5, p. 1021-1024.

To gain insight into the relationship (59-17696) existing between the change in the emulsion speed and the change in its impurity spectral absorption, the impurity spectra and the light sensitivity of the emulsions were measured at different moments of ripening and finishing. Absorption measurements were made on the SF-4 spectrophotometer and on E. A. Kirillov's layout with a photometric sphere (Optika i Spektroskopiya 7: 421-425). A fine structure was observed in the impurity spectra. The relation between the absorption by impurities and light sensitivity was studied by comparing isochromatic curves showing the dependence of the impurity absorption for different λ upon the time of ripening with the kinetic curves of the total light sensitivity.

Zelikman, V. L. and Kondrat'yeva, Ye. B.
CHARACTERISTICS OF TANNING OF PHOTOGRAPHIC EMULSIONS WITH ORGANIC TANNING AGENTS. [1959] 15p. 35 refs.
Order from LC or SLA mi$2.40, ph$3.30 60-14019

Trans. of Tekhnika Kino i Televideniya (USSR) 1959, v. 3, no. 6, p. 47-54.

A different character of the change in the coagulation and tanning action of fluoroformol tanning agent (mixture of formalin and fluoroglucin solutions) on a 5 percent gelatin solution or on photographic emul-

sions on standing was observed. As a result, the maximum of the viscosity attained corresponds to the minimum of the melting point of the gelatin layer. The highest degree of tanning of an air-dried gelatin layer or of a photographic emulsion is attained when coating these solutions immediately after the addition of fluoroformol, that is, when the viscosity is lowest. The chemistry assumed for the tanning process of gelatin solutions and photographic emulsions with fluoroformol is described, and the effect of the relative moisture content on the process of the "sustained tanning action" of air-dried layers by this tanning agent during keeping is demonstrated. The practicability of using the method of accelerated hygrothermostatic aging at high temperature (50-60° C) and at the given values of the relative moisture content for the study of the "sustained tanning action" under natural keeping conditions was shown. The example of fluoroformol tanning was used to show the general advantage of employing organic tanning agents for the tanning of photographic emulsions and gelatin layers of motion picture films, and also to show the practicability of further study in this field. It was shown that in practice organic tanning agents do not affect the kinetics of development of a light sensitive layer within the range of the melting points studied. (Author)

Plastics

CONTINUOUS PRODUCTION OF COLORED POLYURETHAN FOAMS. [1959] 7p. 1 ref.
Order from RIS $12.50 RIS rept. 61031

Trans. of German patent application F 18557 (39b, 22/04) DAS 1 028 771, filed 1 Oct 55, pub. 24 Apr 58, by Farbenfabriken Bayer, A. G., Leverkusen.

Rights are claimed to a process for continuous production of polyurethan foams from polyhydroxyl and polyisocyanates, characterized in that pigment dyes in the form of pastes dispersed in common organic liquid solvents with high boiling points and no groups capable of reacting with NCO groups are added to the reaction components by means of a special metering device.

NEW AGENTS FOR STABILIZATION OF POLYAMIDES. [1959] 6p.
Order from RIS $7.50 RIS rept. 6427

Trans. of German patent application F 16 038 (39b, 22/04) DAS 1 001 819, filed 2 Nov 54, pub. 31 Jan 57, by Farbenfabriken Bayer A. G., Leverkusen.

Patent rights are claimed to the use of halogenated di(hydroxyphenyl)-methanes as stabilizers for polyamides.

Rubber and Elastomers

Pechkovskaya, K. A., Goldman, E. I., and Dogadkin, B. A.
THE STRUCTURE AND PROPERTIES OF FILLED RUBBER STOCKS. XVII. THE PROPERTIES OF COLLOIDAL SILICA WHICH DETERMINE ITS REINFORCING EFFECT (Struktury i Svoystva Napolnennykh Rezinovykh Smesey. XVII. Svoystva Kolloidnoy Kremnekisloty, Opredelyayushchiye yeye Usilivayushchiy Effekt). Nov 59 [15]p. 5 refs. RTS no. 1112.
Order from LC or SLA mi$2.40, ph$3.30 59-22719

Trans. of Kauchuk i Rezina (USSR) 1958, v. 17, no. 2, p. 12-17.

Active (reinforcing) and non-active (slightly reinforcing) modifications of colloidal silica were studied to ascertain the properties which determine the activity of these materials. Active and non-active specimens of colloidal silica hardly differ from one another in particle size (electron microscope data) and in the size and sign of their electric charge. The reinforcing properties of the specimens are not connected with the presence of adsorbed electrolytes remaining on the filler during its preparation: the removal of these electrolytes by high voltage dialysis has practically no effect on the reinforcing capacity. The optical density of aqueous suspensions of an active modification is always higher than that of a nonactive modification, with suspensions of equal concentration. The difference is because an active specimen disperses better in water than a nonactive. The optical density of aqueous suspensions of colloidal silica is recommended as an index for an initial evaluation of the activity of this filler without introducing it into a rubber stock. Calcination of an active modification of colloidal silica at 600°C results in it losing its activity as a filler and at the same time in a considerable reduction in the degree of development of its reticular structure in a rubber stock. At 600°C a change is assumed to occur in the structure of the crystalline lattice of the filler, with a change from a less stable, but more active crystalline form, to a more stable but less active form. Prior to dialysis an active modification of colloidal silica dissolves in a 1% solution of caustic soda more slowly than a nonactive modification; after dialysis, however, an active modification dissolves more rapidly than a nonactive one. (See also 59-22168)

Virabyants, R. A.
PHYSICO-CHEMICAL METHODS FOR TESTING FURNACE GAS BLACK (Fiziko-khimicheskiye Metody Ispytamiya Pechnoy Gazovoy Sazhi) tr. by R. J. Moseley. July 58 [9]p. 4 refs. Trans. no. 650; M 72.
Order from LC or SLA mi$1.80, ph$1.80 59-18717

Trans. of Gazovaya Promyshlennost' (USSR) 1957, no. 9, p. 31-34.

An investigation of the methods recommended for determining the physico-chemical properties of gas furnace black and a comparison of these properties

with their testing in vulcanized rubber confirms the desirability and effectiveness of introducing these methods for full-scale inspection of production and for assessment of the quality of the final product.

Wood and Paper

Freydin, A. S.
EFFECT OF RADIOACTIVE RADIATION ON THE PHYSICAL AND MECHANICAL PROPERTIES OF WOOD (Deystviye Radioaktivnogo Izlucheniya na Fiziko-Mekhanicheskiye Svoystva Drevesiny) tr. by R. J. Zatorski. [1959] [13]p. 7 refs. Trans. no. 4417.
Order from SLA mi$2.40, ph$3.30 60-10934

Trans. of Derevoobratyvayushchaya Promyshlennost' (USSR) 1958, v. 7, no. 9, p. 13-15.

Experiments were carried out with powerful radiochemical gamma-ray instruments (using Cobalt 60) emitting 600, 1,400 and 20,000 g equiv. of radium. Wood samples irradiated with various doses were compared with control samples selected from the same log. Pine was the principal test material, but in some cases, ash was used. Wood was irradiated at a temperature not more than 4° above the room temperature; moisture content of pieces was 8 to 10 percent. Darkening became noticeable at 5 megafermis. At 100-megafermi doses, wood became brittle and crumbled under the pressure of a finger nail. After exposure to 200 megafermis doses, the sawdust was easily ground to powder. Irradiated wood had a characteristic smell. Load resistance of test pieces was significantly affected; exposure to 50, 200 and 500 megafermis lowered static bending strength by 20, 69 and 90 percent, respectively. The increased brittleness of wood reduced its resistance to impact loads, and in particular to impact bending. The resistance of wood to radial shear parallel to the grain falls at 50 megafermis by 24 percent and at 200 megafermis by 54 percent. Irradiated ash and pine pieces (140 megafermis) after one day absorbed 2.6 times the volume of water absorbed by control samples. They also crack easily. On further storage (up to 30 days) this difference was gradually eliminated.

Knysh, V. A.
DRYING TIME OF VENEER IN ROLLER DRYERS (O Prodolzhitel'nosti Sushki Shpona v Rolikovykh Sushilkakh) tr. by M. Slade [1959] [5]p. 3 refs. Trans. no. 4300.
Order from SLA mi$1.80, ph$1.80 60-10933

Trans. of Derevoobratyvayushchaya Promyshlennost' (USSR) 1958, v. 7, no. 12, p. 4-5.

A nomogram is presented for determining the drying time of green peeled veneers of alder, birch, and beech with or without false heart. The nomogram is based on the simplified equation

$$\tau = \frac{K_r}{N_r}\left(W_n - 30 + \frac{2.3}{X}\log\frac{30}{W_k}\right)$$

which was worked out by the L'vov Timber Technology Institute to replace the previous complicated equation derived at the Central Scientific Research Institute for Plywood and Funiture from the theory of drying by convection of capillary porous substances. Here τ represents the drying time (in minutes) of the green peeled veneer, K_r the coefficient of drying (in 1/min) for birch veneer during the second stage, as determined from the nomogram of D. M. Sterlin (Drying veneer in roller and compartment kilns, in Russian, Goslexbumizdat, 1955), N_r the rate of drying (in percent/min) for birch during the first stage, as determined from D. M. Sterlin's nomogram, W_n and W_k the initial and final moisture content (in percent) of the veneer, and X the relative drying coefficient, which depends on the species of the veneer and on the method of drying.

Pankov, D. L. and Kugushev, I. D.
THE CONSTRUCTION OF AN INSTRUMENT FOR AUTOMATIC MEASUREMENT OF PAPER SUBSTANCE. Nov 59, 6p. (3 figs. omitted) 1 ref.
Order from LC or SLA mi$1.80, ph$1.80 60-14013

Trans. of Bumazh[naya] Prom[yshlennost'] (USSR) 1958, v. 33, no. 8, p. 6-9.

The constructional features of the instrument depend on the purpose for which it is intended (for recording or for inclusion in the chain of control), and also on the kind of product being manufactured. (Author)

Yamada, Tadashi and Kadita, Shigeru.
ADSORPTION OF WATER VAPOUR ON WOOD. May 59, 21p. (7 figs. diagrams 37 refs. omitted) 1 ref. Trans. No. 130.
Order from NRCC mi$0.65, ph$4.50 NRCC C-3124

Trans. of [Mokuzai Kenkyu] (Japan) 1952, no. 9, p. 42-62.

MATHEMATICS

JOURNAL OF APPLIED MATHEMATICS AND MECHANICS, 1959 VOL. 23, NO. 2, P. 303-598. Dec 59, 1v.
Order from PP $35.00/year

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1959, v. 23, no. 2, p. 209-416.

JOURNAL OF APPLIED MATHEMATICS AND MECHANICS, 1959, VOL. 23, NO. 3, P. 599-898. Dec 59 1v.
Order from PP $35.00/year

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1959, v. 23, no. 3, p. 419-624.

LENINGRAD U. VESTNIK (USSR) 1959 [VOL. 14] NO. 19, P. 5-159. SERIYA MATEMATIKI, MEKHANIKI I ASTRONOMII, NO. 4 (Herald of Leningrad University, Mathematics, Mechanics, and Astronomy Series). [1959] [12]p. SOV-43-59-19-(1-14)/14.
Order from OTS $0.60, $2.25/year PB 141 037T-8
Foreign $0.85, $3.25/year

Consists of abstracts in English.

Computing Devices

Kirillov, N. Ye.
ON CODES WHICH LIMIT THE RANGE OF ERROR. 25 Nov 59, 4p, 1 ref. JPRS: 2029-N.
Order from OTS $0.50 60-11085

Trans. of Akademiya Nauk SSSR. O[tdeleniye] T[ekhnicheskikh Nauk]. Izvestiya: Energetika i Avtomatika, 1959, no. 3, p. 183-184.

The problem is considered of evolving a code for a dictionary from N independent symbols of probability p_j, in which error in reception of one code sign results in an incorrect reception of not more than k symbols. Analysis shows that there are two possibilities of evolving such a code. (Author)

Poyen, J. and Vauquois, B.
PERTAINING TO A UNIVERSAL LANGUAGE. Nov 59, 24p.
Order from SLA mi$2.70, ph$4.80 60-14023

Trans. of mono. (paper) presented at International Computer Conference, Paris, 1959.

In this review, our point of departure is the group of automatic programs of "algebraic type" such as Fortran, Mathematic, and AP3. (Author)

MECHANICS

AKADEMIYA NAUK SSSR. OTDELENIYE TEKHNICHESKIKH NAUK. IZVESTIYA: MEKHANIKA I MASHINOSTROYENIYE, 1959, NO. 4, P. 3-200 (News of the Academy of Sciences of the USSR. Dept. of Technical Sciences, Mechanics and Machine Welding). [1959] 1v. SOV-179-59-4-(1-40)/40.
Order from OTS $1.00, $5.50/6 mo. PB 141 019T-20
Foreign $1.25, $7.00/6 mo.

Consists of abstracts in English.

Engel, E.
THE TWISTING OF CABLES AND THEIR TORSIONAL STIFFNESS, tr. by P. G. Bhuta. Nov 59, 26p. 3 refs.
Order from SLA mi$2.70, ph$4.80 60-14003

Trans. of Österreichische Ingenieur-Zeitschrift (Austria) 1958, v. 1, no. 1, p. 33-39.

Expressions are derived for the torsional stiffness and torsion factor of cables (single and multistrand, with and without core). The use of the expressions in a numerical example gave a result approximately 5% different from that experimentally obtained in 1934 by F. Dreher.

Immerman, A. G.
ANALYSIS OF A CIRCULAR CYLINDRICAL SHELL UNDER TRANSVERSE LOADING (Raschet Ortoropnoy Krugovoy Tsilindricheskoy Obolochki na Poperechnuyu Nagruzku). Oct 59 [55]p. 17 refs. RTS no. 1070.
Order from LC or SLA mi$3.60, ph$9.30 59-22586

Trans. of mono. Raschet Prostranstvennykh Konstruktsii, M[oscow] 1955, p. 323-373.

The present paper describes the application of the energy method for obtaining a simple and relatively general practical method of the calculation of circular closed cylindrical, smooth and reinforced, shells of the types of towers and pipelines for the action of an arbitrary transverse load, without expanding it into trigonometric series. Formulae have been derived or methods have been indicated for a direct and rapid determination of supplementary forces and displacements which, along with the basic ones obtained by means of the elementary methods of the resistance of materials, completely determine the stressed and deformed state of these shells. The expressions obtained for the annular forces have a better convergence than in the existing methods of calculation. The accuracy and the limits of applicability of the solution have been established. The application of the method has been shown on examples. The use of the derived formulae or of the indicated method of calculation and of the tables of hyperbolic-trigonometric functions found in manuals enables relatively complicated problems to be solved rapidly and without cumbersome computations. (Author)

Kachanov, L. M.
ON THE TIME TO FAILURE DURING CREEP (O Vremeni Razrusheniya v Usleviyakh Polzachesti). Oct 59 [13]p. 11 refs. RTS no. 1114.
Order from LC or SLA mi$2.40, ph$3.30 59-22404

Trans. of Akademiya Nauk SSSR. O[tdeleniye T[ekhnicheskikh] N[auk]. Izvestiya, 1958, no. 8, p. 26-31.

METALLURGY

THE ABSTRACTS JOURNAL, METALLURGY; PART 'A', 1958, NO. 8. Aug 59, 90p.
Order from PP $20.00/year

Trans. of abstracts of a highly scientific nature from Referativnyy Zhurnal. Metallurgiya (USSR) 1958, no. 8.

THE ABSTRACTS JOURNAL, METALLURGY; PART 'A', 1958, NO. 11. Oct 59, 126p.
Order from PP $20.00/year

Trans. of abstracts of a highly scientific nature from Referativnyy Zhurnal. Metallurgiya (USSR) 1958, no. 11.

COKE AND CHEMISTRY, USSR, 1959, NO. 8. [1959] 59p.
Order from CTRA £1, ♂5 5s/year

Trans. of Koks i Khimiya (USSR) 1959, no. 8 [p. 1-64].

*FIZIKA METALLOV I METALLOVEDENIYE (USSR) 1959, V. 8, NO. 2, P. 161-320 (Physics of Metals and Metallography). [1959] 1v. SOV-126-8-2-(1-26)/26.
Order from OTS $0.80, $4.75/year PB 141 126T-13
Foreign $1.05, $6.25/year

Consists of abstracts in English.

HYDRODYNAMICS OF MOLTEN METALS. [1959] [385]p. 260 refs. F-TS-9752/V.
Order from OTS $5.00 59-21188

Trans. of mono. Gidrodinamika Rasplar Lennykh Metallor, Moscow, 1958, 257p. (Trudy Pervogo Soveshchaniya po Teorii Liteynykh Protessor)

Results are presented of theoretical and experimental research on the dynamics of molten metals by leading Soviet scientists. The collection includes reports that were read before the Conference on the Hydrodynamics ot Molten Metals, organized by the Casting Section of the Commission on the Technology of Machine-Building of the Institute of Machine-Building of the Academy of Sciences USSR. The reports indicate the results of work completed in the institutes of the Academy of Sciences USSR, the Academies of Science of the Ukrainian SSR and the Belo-russian SSR, branch research institutes, academic departments of colleges, and factories. Included are an examination of the viscosity properties of molten metals and their surface tension; the relationship between the properties of the liquid phase and the metallic aggregate formed from it; the flow of metal in conduits; the causes of defects in castings; the influence of aluminum on the flowability of steel; the relationship between the structural diagram of a molten metal and its mechanical properties; theoretical problems in the choice of a test for flowability. The publication is designed for a wide circle of scientific and engineering-technical workers: metallurgists, casters, teachers, and students in advanced courses at metallurgical institutes.

*ZAVODSKAYA LABORATORIYA (USSR) 1959, V. 25, NO. 8, P. 895-1020 (Plant Laboratory). [1959] 1v. SOV-32-25-8-(1-44)/44.
Order from OTS $1.00, $5.50/6 mo. PB 141 027T-23
Foreign $1.25, $7.00/6 mo.

Consists of abstracts in English.

Edström, J. O.
REACTIONS IN PELLETIZING AND IRON ORE REDUCTION; PT. I. [1959] 9300 words.
Order from HB $18.60 HB-4559

Trans. of Jernkontoret [Stockholm]. Annaler (Sweden) 1958, v. 142, no. 7, p. 401-428.
Also pub. as Jerkontoret, Stockholm, misc. rept. no. 77 and available from SLA mi$5.40, ph$15.30 as 59-17811, 25 May 59 [100]p.

Iron oxides: equilibrium conditions and lattice relationships. Oxidation of magnetic concentrate pellets. Parabolic law for a sphere, applied to oxidation of pellets. Experimental results. Quantitative determination of reaction rates in oxidation of magnetite pellets. Oxidation of pellets in a shaft furnace. Reaction between lime and iron oxide in pelletizing. Reduction of single crystals of magnetite and hematite. (HB abstract)

Edstrom, John Olof.
SOME CHEMICAL REACTIONS INVOLVED IN PELLETIZING AND IRON ORE REDUCTION. [1959] [100]p. 40 refs.
Order from SLA mi$5.40, ph$15.30 59-17811

Trans. Jerkontoret, Stockholm. Misc. rept. no. 77. Also pub. as Jerkontoret, Stockholm. Annaler (Sweden) 1958, v. 142, no. 7, p. 401-428 and available from HB for $18.60 as HB-4559 [1959] 9300 words.

The investigations of pelletizing dealt with oxidation of magnetite and reactions between lime and hematite. Quantitative expressions were elaborated for rates of reaction when oxidizing ore pellets in pure oxygen gas and in mixtures of oxygen and inert gases. The validity of these expressions was verified by laboratory and field tests. The studies of reaction between lime and hematite resulted in a reversion of the phase The ability of small amounts of lime to strengthen and prevent swelling of rich ore pellets during reduction can be attributed to (1) the good distribution of lime in the iron oxide lattice attained by the formation of ferrite during the burning of the pellets and (2) the solution of lime in the wustite and magnetite lattices formed during reduction. (See also 60-12025)

Erdmann-Jesnitzer, Friedrich and Pysz, Gottfried.
POSITION, TIME AND CAUSE OF SPATTER DURING ELECTRIC-ARC WELDING. [1959] 29p. (10 figs. omitted) 19 refs.
Order from SLA mi$2.70, ph$4.80 60-10039

Trans. of Schweissen und Schneiden (West Germany) 1958, v. 10, no. 8, p. 303-311.

Slow-motion infrared pictures showed that spatter, for coated and uncoated electrodes, usually arose from the welding bath (i. e., from the pool of liquid metal which forms beneath the electrode tip), although it sometimes arose from the liquifying tip of the electrode. The casing was never the source of spatter. Spatter occurred 0.001 to 0.01 sec after the electrode entered the bath, which indicates that material transfer and chemical reactions take place. Coated electrodes showed less spatter because the gas atmosphere which arose at the evaporation of the coating protected the electrode from excessive diagram CaO-Fe_2O_3. A phase with a composition corresponding to $CaO \cdot 2Fe_2O_3$ does exist, and that this phase is formed when burning ore pellets containing lime. The mechanisms of reduction of iron ores were studied by detail investigations of processes occurring in the pure ore grains, i. e., the iron oxide crystallites. Special attention was paid to the changes in microstructures and the mechanisms of reactions in solid state. The close connection between reduction and oxidation processes in the system iron-oxygen was corroborated by comparison of kinetic data of the author's own reduction studies with literature data of oxidation. The results of the studies of single crystals were applied to reduction of rich ores-concentrates and to lumps. In the reduction of ferrites, two-phase reduction zones ore formed, and at each zone boundary one phase component is substituted. The reduction of dicalcium ferrite ($2\,CaO \cdot Fe_2O_3$ or $Ca_2Fe_2O_5$) proceeds in one step to iron and calcium diferrite ($CaO \cdot 2\,Fe_2O_3$ or $CaFe_4O_7$) are reduced in a much more complicated way forming seven or more reduction zones, each representing one reduction step. absorption of H_2, O_2, and N_2. Coating ingredients acted as deoxidants and antioxidants. The CO which arises spontaneously in the gas was concluded to be the cause of spatter. Spatter velocities were about 260 cm/sec for an uncoated electrode with a 220-amp welding current, and between 60 and 80 cm/sec for coated electrodes.

Figurovskiy, N. A.
DEVICE FOR DETERMINING THE APPARENT DENSITY OF POROUS AND SURFACE-CRACKED SUBSTANCES. Jan 60, 1000 words.
Order from HB $2.75 HB-4637

Trans. of Zavodskaya Laboratoriya (USSR) 1938, v. 7, no. 7, p. 800-801.

Sources of error in the currently used methods for determining the apparent density of e.g. sorbents, catalysts, coals, rocks, soils, especially in regard to the effect of air bubbles. Development of a device avoiding these shortcomings. Design and operation of device. Practical examples demonstrating its usefulness. (HB abstract)

Fik, Henryk.
ECONOMIC ANALYSIS OF THE ZINC PRODUCTION METHODS USED IN POLAND. 26 June 59, 33p.
JPRS: L-1139-D.
Order from OTS $1.00 59-11580

Trans. of Rudy i Metale Niezelazne (Poland) 1957, v. 2, no. 3, p. 79-84 and no. 4, p. 105-112.

The comparison takes into account the average production costs of zinc in horizontal muffle furnaces, the costs of the best working plant of zinc electrolysis, and the production costs of experimental equipment using vertical retorts.

Kitaygorodskiy, Yu. I., Kogan, M. G. and others.
JOINING OF METALS IN THE SOLID STATE BY THE ACTION OF ULTRASONIC VIBRATIONS [Soyedineniye Metallov v Tverdom Sostoyanii pri Vozdeystvii Ul'trazvukovykh Kolebaniy]. [1959] [3]p. M559.
Order from LC or SLA mi$1.80, ph$1.80 59-22686

Trans. of Akademiya Nauk SSSR. Otdeleniye Tekhnicheskikh Nauk. Izvestiya, 1958, no. 8, p. 88-90.
Another translation is available from HB as HB-4401, $2.90 [1958].

Kuznetsov, V. I. and Golubtsova, R. B.
THE COLORIMETRIC DETERMINATION OF SMALL QUANTITIES OF ALUMINIUM IN CHROMIUM-NICKEL AND MAGNESIUM ALLOYS (Kolorimetricheskoye Opredeleniye Malykh Kolichestv Alyuminiya v Kromonikelevykh i Magniyevykh Splavakh) tr. by D. A. Sinclair. 1959, 7p. 1 ref. Technical Trans. 836.
Order from NRCC NRC C-3173

Trans. of Zavodskaya Lab[oratoriya] (USSR) 1956, v. 22, no. 2, p. 161-162.

A method of colorimetric determination of aluminum with the arsenazo reagent in high-percentage alloys and magnesium alloys is described. In alloys containing titanium, zirconium, niobium and tungsten, after removal of chromium and nickel and reducing the iron concentration by electrolysis on the mercury cathode, the iron, titanium and zirconium residues are precipitated with cupferron. After destruction of the cupferron residue in the filtrate and preparation of the solution, colorimetry is carried out. The method permits the determination of as little as 0.001% aluminum in alloys. (Author's conclusion)

Losev, B. I., Mel'nikova, A. N. and others.
NEW METHODS OF INVESTIGATION OF SUBSTANCES ENTERING INTO THE COMPOSITION OF COALS (Novyye Metody Izucheniya Veshchestvennogo Sostava Ugley). [1959] [8]p. (foreign text included). M615.
Order from LC or SLA mi$1.80, ph$1.80 59-22633

Trans. of Akad[emiya] Nauk SSSR. Vestnik, 1958 [v. 28] no. 10, p. 58-60.

Methods discussed for extracting rare metals from coal include the use of gamma-rays, ultra-sound, and electro-hydraulic effects for the disruption of the binding forces.

Mikhaylov-Mikheyev, P. B.
METALLURGICAL ACHIEVEMENTS IN THE

DEVELOPMENT OF HIGH-TEMPERATURE (HEAT-RESISTANT) STEELS AND ALLOYS FOR GAS TURBINE CONSTRUCTION. 27 Nov 59, 14p. 14 refs. JPRS: 1038-D.
Order from OTS $0.50 59-31049

Trans. of Teploenergetika (USSR) 1959 [v. 6] no. 10, p. 3-8.

Various characteristic factors affecting the selection of metals for gas turbines used for various purposes are examined. The present status of problems concerned with research and development of heat-resistant steels and alloys is described, as well as the practical application of achievements in the field of metal studies concerned with the development of materials for gas turbine construction. (Author)

Rostovtsev, S. T. and others.
ON THE MECHANISM OF THE REDUCTION OF IRON OXIDES. Jan 60, 2000 words.
Order from HB $4.80 HB-4692

Trans. of Nauchn[yye] Doklady Vyssh[ey] Shkoly. Metal[lurgiya] (USSR) 1959, no. 2, p. 5-8.

Study of role played by the (lower) oxides as catalysts of the semiconductor type and by process of 'atomization' of elementary particles of iron on surface of iron oxides being reduced by gases. Separateness of chemical from phase transformations, with the diffusion of iron constituting a close bond between them. Initiation of reduction by activated adsorption of reducing gas on surface of oxides: two-stage scheme of mechanism, the first stage occurring with, and the second without, phase transformation. (HB abstract)

Toth, Bela Sarudy.
DOMESTIC PRODUCTION OF METALLURGICAL COKE. 24 July 59, 21p. JPRS: L-1198-D.
Order from OTS $0.75 59-11584

Trans. of Kohaszati Lapok (Hungary) 1958 [v. 13] no. 5/6, p. 229-236.

An investigation is presented of the degree to which the coking plant of the Danube Steel Mill has conformed to the previously described international developmental trends and the degree to which the plant has utilized the latest viewpoints in metallurgical coke production since it commenced operation in July 1956.

Uzhik, G. V.
STRENGTH AND PLASTICITY OF METALS AT LOW TEMPERATURES [AND] HEAT TRANSFER AND THERMAL MODELLING. [1959] [4]p. M476.
Order from LC or SLA mi$1.80, ph$1.80 59-22539

Partial trans. (table of contents) of monos. Prochnost' i Plastichnost' Metallov Pri Nizkikh Temperaturake and Teploperedacha i Teplovoye Modelirovaniye, pub. by Akademii Nauk SSSR, 1959.

Wakabayashi, K.
REDUCTION REACTIONS IN THE BLAST FURNACE. Jan 60, 1000 words.
Order from HB $2.80 HB-4723

Trans. of Tetsu to Hagane (Japan) 1959, v. 45, no. 3, p. 183-185.

Study of nature of direct and indirect reduction and their interrelation. Carbon balance of charging stock; Heat balance of author's blast furnaces. Experimental data on reduction process. Interrelation among direct reduction, reducing efficiency of CO, and coke ratio. Relationship between degree of indirect reduction, ratio of direct to total reduction, and ore charged per ton of coke. Conditions under which an increase in indirect reduction is useful. (HB abstract)

Ferrous Metals

THE DANUBE IRONWORKS. 12 May 59, 238p. (75 figs. omitted) 13 refs. JPRS: 1578-N.
Order from OTS $3.50 59-13510

Trans. of series of articles from Kohaszati Lapok (Hungary) 1957, v. 12, no. 8/9, p. 332-439.

Contents:
Short description of the Danube Ironworks, by Frigyes Arkos
The transportation system of the Danube Ironworks, by Istvan Koren
The power economy of the Danube Ironworks, by Janos Altneder and Karoly Bezdek
The production and preparation of the coking coal of Komol, by Gabor Boday
Coal preparation and coal washing in the Danube Ironworks, by Janos Schwertner and Imre Schumicky
A description of the coking plant of the Danube Ironworks, by Gyorgy Pesti
Obtention and processing of the by-products of the coking works, and description of the chemical plant, by Endre Tomaschek and Gusztav Dancshazy
Description of the ore-preparation and sintering plant of the Danube Ironworks, by Imre Raabe
Experiences relating to putting into operation and operating the blast furnace of the Danube Ironworks, by Laszlo Marczis
The automatic control system of the blast-furnace plant of the Danube Ironworks, as an aid to technology, by Laszlo Marczis
Description of the steelworks of the Danube Ironworks, by Laszlo Eles
Operating data of Martin furnaces fired chamber gas, by Gellert Repasi
The rolling mills of the Danube Ironworks, by Laszlo Szeless
The future of the production of plates in the Danube Ironworks, by Frigyes Arkos and Lorand Kismarty
The system of the testing of materials of the Danube Ironworks, by Robert Forbath and Laszlo Pocze
The foundry of the Danube Ironworks, by

Pal Weingartner and Laszlo Tozser
Cadre development and the acquisition of manpower in the Danube Ironworks, by Robert Timler and Janos Keresztury
Sztalinvaros, by Pal Arva

Draygor, D. A. and Shevchuk, V. A.
RESISTANCE OF MATERIALS; WEAR-RESISTANCE OF STEEL AND RESIDUAL STRESSES IN SURFACE LAYERS. [1959] [14]p. 2 refs.
Order from LC or SLA mi$2.40, ph$3.30 60-10800

Trans. from [Akademiya Nauk URSR, Kiev. Dopovidi] 1956, no. 5.

Research was applied to the relation between the wear of steel through sliding friction due to lubrication and the magnitude of residual tensile stresses in surface layers after machining. The highest degree of wear-resistance is found in the surface layer where, after machining, residual stresses are closely akin to stresses arising in the course of the frictional process. By a suitable choice of method and conditions of machining it is possible to ensure physical parameters of the surface layer and, in particular, such values of residual stresses as ensure the highest degree of wear-resistance of steel.

Farnik, Alojzy.
PROBLEMS RELATING TO TECHNICAL PROGRESS IN THE POLISH STEEL INDUSTRY. 10 Sep 59, 10p. JPRS: L-948-D.
Order from OTS $0.50 59-11612

Trans. of Przeglad Techniczny (Poland) 1958, no. 10, p. 438-441.

Galemina, O. M.
COALESCENCE OF GRAPHITE IN MALLEABLE IRON. Jan 60, 500 words.
Order from HB $2.00 HB-4687

Trans. of Nauchn[yye] Doklady Vyssh[ey] Shkoly. Metal[lurgiya] (USSR) 1959, no. 1, p. 168-169.

Study of rate of coalescence and number of graphite inclusions in 2.32% C, 1.09 Si cast iron, graphitized at 950°C and heated for ten hours at 1050°C. Corresponding microstructures. Mechanism underlying the simultaneous closing up of spaces in matrix; overall effect of migration of iron atoms. (HB abstract)

Gorczyca, Stanislaw.
RECRYSTALLIZATION OF AUSTENITE IN CONSTRUCTION STEEL AFTER PLASTIC HEAT TREATMENT. [1959] 15p. (14 figs. omitted) 18 refs.
Order from SLA mi$2.40, ph$3.30 60-10076

Trans. of Hutnik (Poland) 1958, v. 25, July/Aug, p. 269-278.

The kinetics of austenite recrystallization were tested on a steel containing C 0.36, Mn 0.72, Si 0.29, P 0.031, and S 0.010 percent. Plastic treatment was done at 850°, 900°, 1000°, and 1050°C at times ranging from 0 to 30 minutes. The method involved etching of a specimen quenched to martensite by an agent containing picric acid and an inhibitor, whose adsorption character by a unimolecular surface layer depended on crystal orientation. At all temperatures and times the evidence of plastic deformation of former austenite grains could be detected. The extent was related to recrystallization, temperature, time, and the degree of applied deformation. The calculated value of the activation energy of the recrystallization process was 61,000 ± 4,000 cal/g-atom, which is close to the published value of self-diffusion upon grain boundaries in an Fe alloy containing 0.4 percent Mn.

Grebenik, V. M. and others.
MECHANIZED CHARGING OF FURNACES FOR THE PRODUCTION OF FERRO-ALLOYS. Jan 60, 1000 words.
Order from HB $2.80 HB-4688

Trans. of Nauchn[yye] Doklady Vyssh[ey] Shkoly. Metall[urgiya] (USSR) 1959, no. 1, p. 68-72.

Development of a charging machine for three-phase furnaces producing ferrosilicons or other ferroalloys. Requirements to be met by such a machine. General view of machine equipped with a rotating feed pipe and installed next to furnace. First and second improved designs developed at the Siberian Metallurgical Institute. Particulars on capacity of machine; movement of charge (including bulky chips); control of quantity of mix charged; chute for depositing the mix around electrodes when in the lowered position; tilting mechanism; best rpm for feed pipe; uniformity of distribution of charge. (HB abstract)

Gromov, M. I., and others.
DESULFURIZATION OF HOT METAL OUTSIDE THE BLAST FURNACE. Jan 60, 1300 words.
Order from HB $2.60 HB-4728

Trans. of *Metallurg (USSR) 1958 [v. 3] no. 3, p. 3-6.

Review of currently used equipment and methods for removal of sulfur from pig iron outside the blast furnace; their shortcomings. Desulfurization in authors' rotary furnace; factors influencing the treatment. Data on lime composition, particle size, and consumption; speed of rotation of furnace; coke breeze mesh size and rate of addition to iron. Nomogram for reading off the optimum rotation speed in relation to furnace diameter and metal viscosity. General precautions to be taken. (HB abstract)

Gromov, M. I. and Tsylev, L. M.
MECHANISM OF DESULFURIZATION OF PIG IRON WITH SOLID LIME. Jan 60, 1500 words.
Order from HB $3.75 HB-4758

Trans. of Akad[emiya] Nauk SSSR. O[tdeleniye] T[ekhnicheskikh] N[auk]. Izv[estiya]: Met[allurgiya] i Topl[ivo] 1959, no. 3, p. 25-28.

Study of mechanism of desulfurization of iron in the presence of two solid phases: iron and lime, and in

the presence of one liquid (iron) and one solid (lime) phase. Results of experiments using commercial iron sulfide, solid iron and solid lime; role played by liquid and gaseous phases; proposed scheme of mechanism of desulfurization. Desulfurization of liquid iron by solid lime: experimental setup; results of X-ray and micrographic analyses; proposed scheme. Conclusions drawn as to mechanism of sulfur removal from liquid pig iron in ladles, rotary furnaces, etc. i.e. outside the B.F. (HB abstract)

Kasatkin, B. S. and Movchan, B. A.
STRUCTURAL PECULIARITIES OF BRITTLE AND TOUGH FRACTURES OF STEEL. Jan 60, 1300 words.
Order from HB $3.50 HB-4686

Trans. of *Akad[emiya] Nauk SSSR. O[tdeleniye] T[ekhnicheskikh] N[auk]. Izv[estiya] 1956, no. 5, p. 151-153.

X-ray study of brittle and tough fractures in a 0.09% C steel and a 0.18% C, 0.71 Cr, 0.63 Ni, 0.35 Cu steel, these steels differing widely in their tough-brittle transition temperature. X-ray technique used. Impact strength (standard Mesnager and special notches) as function of temperature. X-ray patterns of specimens in initial state; brittle and tough states and their interpretation. Determination of depth of penetration of plastic deformation under conditions of brittle fracture. Just what is the main difference between brittle and tough fractures? (HB abstract)

Kidin, I. N.
TRANSFER OF CARBON INTO SOLID SOLUTION DURING INDUCTION HEATING OF CHROMIUM STEELS. Jan 60, 2300 words.
Order from HB $6.45 HB-4634

Trans. of Proizvodstvo Obrabotka Stali Splavov. Sbornik (USSR) 1958, no. 38, p. 405-419.

Study of conditions under which carbon passes into solid solution as a prerequisite to the establishment of optimum heat treating practices for Cr-alloyed steels. Compositions studied: 0.6, 0.8, and 1% C; 1, 2 1/2, 5, and 10% Cr. X-ray photographs and photometric curves. Relation between C content of martensite and quenching temperature for various heating rates (induction heating). Effect of condition of carbide phase on rate of transfer of C into solid solution and effect of Cr content of steel on temperature of isothermal stage and A_1 point. Conclusions for practical heat treatment of Cr steels. (HB abstract)

Kikuchi, M. and Iitaka, I.
EFFECT OF VACUUM MELTING ON MECHANICAL PROPERTIES OF CAST IRON. Jan 60, 900 words.
Order from HB $2.50 HB-4312

Trans. of Imono (Japan) 1958, v. 30, no. 4, p. 231-232.

Use of mullite instead of graphite crucibles for experiments. Compositions of initial pig irons. Tensile strengths of irons after melting in vacuum and air and pouring in air, vacuum, nitrogen, and argon. Quantity of nitrogen absorbed during vac. melting and fractures obtained. Impurities. (HB abstract)

Klimasenko, L.
ALL-AROUND DEVELOPMENT OF THE KUZBASS FERROUS METALLURGY (Kompleksno Razvivat' Chernuyu Metallurgiyu Kuzbassa). 20 Oct 59 [4]p. AF 1256215.
Order from LC or SLA mi$1.80, ph$1.80 59-22138

Trans. of Promyshlenno-Ekonomicheskaya Gazeta (USSR) 1959, no. 77, p. 3, c. 1-2.

Lerman, R. M., Sadovskiy, V. D., and Polyakova, A. M.
INVESTIGATION OF THE STRUCTURE OF HARDENED AND TEMPERED STEEL WITH THE ELECTRON MICROSCOPE, tr. by J. W. Menter. [1959] [11]p. 9 refs. TL 896; M219.
Order from LC or SLA mi$2.40, ph$3.30 59-19112

Trans. of [Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya] 1951, v. 15, no. 3, p. 387.

Mirkin, I. L. and Trunin, I. I.
AN INVESTIGATION OF CREEP AND FAILURE OF STEEL IN THE ZONE OF STRESS CONCENTRATION. [1959] [39]p. 8 refs.
Order from OTS $1.00 59-11252

Trans. of Tsentral'nyy Nauchno-Issledovatel'skiy Institut Tekhnologii i Mashinostroyeniya [Moscow]. Trudy (USSR) 1957, v. 79, p. 24-35.

Tensile testing of notched cylindrical specimens of austenitic and pearlitic steel at varying degrees of stress concentration at room temperature showed a series of fundamental peculiarities of plastic deformation and failure processes. In creep conditions, even during tests extending over 3000 hr, the triaxiality of the stress state and a nonuniformity of stress and plastic deformation distribution in the metal under the notch were maintained. Contours of deformation in the volume of the sample were established by investigating microstructures and microhardness and by measuring the profile of the specimens. The greatest plastic deformation occurred in the metal layers at the root of the notch which are closest to the surface. The degree of deformation decreased rapidly away from the root of the notch in a radial direction toward the center of the minimum cross section of the specimen. The initial failure thresholds were at a 0.2- to 0.4-mm depth from the root of the notch. The peak of normal axial stresses coincides with the place of original failure thresholds during creep testing. A local increase of normal stresses is therefore responsible for the failure of notched specimens under creep conditions. Layer-by-layer microscopic investigations in the notch zone showed that failure always begins and extends along the grain boundaries and is characterized by tearing of crystallites from each other along their boundaries. At 550° to 650° a relaxation of stresses occurs, which leads to a smoothing out of stress peaks.

Pilter, Pal
SUMMARY OF THE STATUS OF PIG IRON PRODUCTION IN HUNGARY, ITS PROFITABILITY, AND THE POSSIBILITY OF DEVELOPMENT. 25 Aug 59, 25p. JPRS: L-1197-D.
Order from OTS $0.75 59-11583

Trans. of Kohaszati Lapok (Hungary) 1958 [v. 13] no. 5/6, p. 217-226.

Trofimov, V. I.
THE LOCAL DEVELOPMENT OF PLASTIC DEFORMATION IN LOW CARBON STEELS (O Mestnom Razvitii Platicheskikh Deformatsii v Malouglerodistykh Stalyakh). Nov 58 [5]p. 3 refs. TIL/T. 4902; M 279.
Order from LC or SLA mi$1.80, ph$1.80 59-19156

Trans. of Akad[emiya] Nauk SSSR. Otd[eleniye] Tekh[nicheskikh] Nauk. Izv[estiya] 1955, no. 11, p. 58-61.

Structural Metallurgy and Corrosion

Beauvais, C[laude].
USE OF THE ELECTRON MICROSCOPE FOR DIRECT EXAMINATION OF THIN FILMS OF METALS AND ALLOYS, PTS. I-II [Emploi du Microscope Electronique à l'Examen Direct en Lames Minces des Métaux et Alliages]. 1959 [39]p. 20 refs.
Order from SLA mi$3.00, ph$6.30 60-10527

Trans. of Métaux (Corrosion-Industries) (France) 1959, v. 34 [no. 406] p. 247-257 and [no. 407/408] p. 291-301.

Berl, E. and Taack, F. van.
EXPERIMENTS WITH THE EFFECTS OF LYE AND SALT ON MILD STEEL AND THE PROTECTIVE ACTION OF SODIUM SULFATE AGAINST ATTACK BY SODIUM HYDROXIDE AND MAGNESIUM CHLORIDE (Uber die Einwirkung von Laugen und Salzen auf Flusseisen unter Hochdruckbedingungen und über die Schutzwirkung von Natriumsulfat gegen den Angriff von Ätznatron und von Chlormagnesium). 1959, 94p. 122 refs. NRL trans. no. 688.
Order from OTS $2.25 59-11904

Trans. of [VDI-Forschungsheft] (Germany) 1930, no. 330, p. 1-31.

Bianchi, G. and Caprioglie, G.
ELECTRO-CHEMICAL REACTION OF DUAL METALLIC ELECTRODES AND THE USE OF EXCESS VOLTAGE CURVES OF THESE ELECTRODES IN CORROSION RESEARCH (Elektrochemisches Verhalten Zweifacher Metallischer Elektroden und die Anwendung der Uberspannungskurven dieser Elektroden in den Korrosionsforschung). Paper read at Second Congress of the European Federation for Corrosion, Frankfurt, a. M., 5 June 58. [1959] [10]p. (foreign text included) 8 refs.
Order from SLA mi$1.80, ph$1.80 60-10750

Trans. of [Werkstoffe und Korrosion (Germany) 1958, v. 9, no. 7, p. 440-443] (original text Italian).

A two-phase electrode with local elements in its anode and cathode surfaces is wired in an outside circuit. The measurement of the polarization voltage is controlled by: (a) position and size of local element surfaces; (b) anode and cathode reactions on the local electrodes; (c) direction and strength of the outside current, and (d) location of the point where the related electrode enters the solution. The discussion of these facts forms the basis for the investigation of the current curves of electrodes, which are subject to corrosion caused by local currents. (Author)

Cihal, Vladimir and Prazak, Milan.
A CONTRIBUTION TO THE EXPLANATION OF INTERGRANULAR CORROSION OF CHROMIUM-NICKEL STEEL. [1959] [11]p. (1 fig. 1 table omitted) 7 refs.
Order from SLA mi$2.40, ph$3.30 60-10312

Trans. of Hutnicke Listy (Czechoslovakia) 1956, v. 11, no. 4, p225ff.

Experiments showed that the precipitation of chromium carbide on the grain boundaries of austenitic steels causes changes in the composition of the adjacent solid solution in near surrounding area. The material near the grain boundary becomes depleted of chromium and its passivation potential is shifted to more positive values, finally approaching that of ferronickel and iron. The grain boundaries with the lowest chromium content are, therefore, capable of passivation only at potentials above +510 mv. Etching at low potentials shows pit corrosion. Its main cause is probably the deformation during the mechanical cutting of the specimen. Thus, deformation can not be removed by electrolytic polishing without intergranular attack.

Kryp'yakevych, P. I. and Gladyshevs'kii, Ye. I.
X-RAY STRUCTURAL ANALYSIS OF HIGH BERYLLIUM CONTENTS ALLOYS OF Cr-Be. [1958] 5p.
Order from LC or SLA mi$1.80, ph$1.80 59-10891

Trans. from Lvov U. [Dopovidi ta Povidomlennya] (USSR) 1957, v. 7, pt. 3.

Lepin, L. K.
THE ROLE OF COLLOIDAL CHEMICAL PHENOMENA DURING THE CORROSION OF METALS IN A SALT SOLUTIONS (Rol' Kolloidno-khimicheskikh Yavleniy pri Korrozii Metallov v Rastvorakh Soley). [1959] [12]p. 13 refs. NRL Trans. no. 732.
Order from OTS $0.50 59-21040

Trans. of [Vsesoyuznyye Soveshchaniye po Korrozii Metallov] (no. 5) Moscow, 1954. Trudy, p. 107-114.

Colloidochemical investigation of corrosion processes in salt solutions were carried out with complete immersion at 20°. Results are presented with respect to (1) the composition of the electrolyte (the role of cations and anions), (2) the concentration of electrolyte, (3) The pH of the medium, and (4) the composition of the gas phase.

Pocheptsova, G. G.
IMPROVED RESISTANCE OF STAINLESS STEEL WELDS TO INTERGRANULAR CORROSION. Jan 60, 1100 words.
Order from HB $2.90 HB-4727

Trans. of Khimich[eskoye] Mashinostroyeniye (USSR) 1959, no. 6, p. 38-40.

Shortcomings of addition of titanium or columbium to 18-8 stainless steel to improve general and intergranular corrosion resistance. Cause of knife-line attack. Benefits derived from heat treatment (whenever the weldment is not too bulky). Exploration of possibilities of obtaining welds resistant to intergranular corrosion by incorporating into them austenite-forming as well as ferrite-forming elements. Recommended electrode wire composition (increased Mn and Al) for maximum resistance to intergranular corrosion. (HB abstract)

Prazak, Vilon and Akimov, G. W.
MEASUREMENT OF ELECTROCHEMICAL QUANTITIES AT TEMPERATURES UP TO 300°C AND AT CORRESPONDING EQUILIBRIUM PRESSURE. Paper read at Second Congress of the European Federation for Corrosion, 7 June 58. [1959] [4]p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-10749

Trans. of [Werkstoffe und Korrosion (Germany) 1958, v. 9, no. 8/9, p. 524-526].

An electrode is described which has proved very useful for electrochemical measurements up to 200°C.

Sheyn, A. S.
THE EFFECT OF FIBRE ORIENTATION ON THE FATIGUE STRENGTH OF HARDENED STEEL (Vliyaniye Orientirovki Volokon na Kontaktnuyu Ustalostnuyu Prochnost' Zakalennoy Staly) tr. by R. Remorenko. 1959, 14p. 1 ref. Technical Trans. 833.
Order from NRCC NRC C-3179

Trans. of Metallovedeniye i [Termicheskaya] Obrabotka Metallov (USSR) 1957, no. 12, p. 61-66.

Examining the macrostructure of the surface of test specimens, it is possible to recognize three orientations of metal fibres: lengthwise, transverse and end-grain. For transverse orientation of fibres, the limiting strength of hardened steel is 20% greater, and the contact endurance is 3 to 5 times greater than for end-fibre orientation. A study of the effect of macrostructure upon the contact strength of hardened steel enabled technical applications significantly increasing the endurance of bearings. (Author's conclusions)

Shishakov, N. A.
THE CAUSE OF THE ANTICORROSION EFFECT OF SODIUM NITRITE ON IRON (O Prichine Antikorrozionnogo Deystviya Nitrita Natriya na Zhelezo). 1959 [8]p. 6 refs. NRL Trans. no. 758.
Order from OTS $0.50 59-21208

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1958, v. 32, no. 10, p. 2282-2286.

An electron diffraction study showed that the protective film formed on the surface of iron under the effect of sodium nitrite is not a simple layer. Only the uppermost layer of this film may consist of unoriented nitrite crystals. In deeper layers, the crystals exhibit a tendency towards an orientation which is genetically connected with the orientation of iron hydroxide crystals located in even deeper layers. The protective action is probably connected with such a transient character of the structure of the entire film.

NUCLEAR PHYSICS AND NUCLEAR CHEMISTRY

*ATOMNAYA ENERGIYA (USSR) 1959, V. 7, NO. 4, P. 313-411 (Atomic Energy). [1959] 1v. SOV-89-7-4-(1-28)/28.
Order from OTS $0.60, $3.50/6 mo. PB 141 082T-24
Foreign $0.85, $5.00/6 mo.

Consists of abstracts in English.

Bibergal', A. V. and Margulis, U. Ya.
NUCLEAR DETONATION AND SOME PROBLEMS IN ATOMIC DEFENSE. [1959] [72]p. 1 ref. F-TS-9939/V.
Order from OTS $2.00 60-21053

Trans. of mono. Atomnyy Vzryv i Nekotoryye Voprosy Protivoatomnoy Zaschity, Moscow, 1958.
A translation of excerpts from chap. 4-7 is available from LC or SLA mi$2.70, ph$4.80 as 59-16448, AF-1255454, 9 Mar 59 [25]p.

The purpose of the present brochure is to familiarize in a readable form the wide masses of the population with the characteristics of the effect of atomic bombs, the principal rules of behavior during an attack, and possible protective measures. All the basic information cited in this brochure has been borrowed from published sources. Use has also been made of some foreign (non-Soviet) data only partly known in the Soviet Union. (Author)

Coutant, J., Prevot, F., and Vienet, R.
STUDY AND DEVELOPMENT OF A HIGH FREQUENCY ELEVATED DISCHARGE ION GUN. 24 Apr 58, 89p. 14 refs.
Order from LC or SLA mi$4.80, ph$13.80 AEC-tr-3538

Trans. of mono. [Etude et Realisation d'un Canon à Ions du Type Haute Frequence à Débit Elevé, 1958, chap. 1-4.

Various problems with respect to the production of an ion gun for 5 to 10 ma are discussed and the solutions adopted for one installation are given.

Fomina, I. A.
THE EFFECT OF THE EMULSION TEMPERATURE ON THE PHOTOGRAPHIC ACTION OF ELECTRONS. [1959] 7p.
Order from ATS $12.85 ATS-53L35R

Trans. of Zhur[nal] Nauch[noy] i Prikład[noy] Fot[ografii] i Kinematografii (USSR) 1959, v. 4, no. 2, p. 94-99.
Another trans. is available from LC or SLA mi$2.40, ph$3.30 as 60-10273 [1959] 11p.

Sumilovskij, N. N. and Meltcer, L. V.
UTILIZATION OF NUCLEAR RADIATION IN THE CONTROL AND AUTOMATION OF TECHNOLOGICAL PROCESSES IN THE USSR (Využití Jaderného Záření v SSSR při Kontrole a Automatisaci Technologických Procesu). Mar 59 [38]p.
Order from LC or SLA mi$3.00, ph$6.30 AEC-tr-3628

Trans. of Jaderna Energie (Czechoslovakia) 1958, v. 4, no. 2, p. 45-56.

Facts surveyed in this lecture show that great progress was made in the USSR in the field of utilization and application of nuclear radiation in the control and automatization of production processes, and that the prospects offered by further development of this technology are good. To obtain control of technological processes of production, Soviet industry developed original methods and instruments based on radioactivity. Most of these instruments have been tested in production; they are extensively used in selected and mass control of production and permit large economies in industry.

Nuclear Engineering and Power

DEFENSE AGAINST RADIOISOTOPE RADIATION. 12 Nov 58, 47p. JPRS/DC-L-1125.
Order from OTS $1.25 59-11314

Trans. of Magyar Nepkoztarsasagi Orszagos Szabvany, Budapest, December, 1957, p. 1-28.

This manual was prepared by the special committee of the Hungarian Office of Standards, and approved by the special committee on health protection and technical safety of the Hungarian National Atomic Energy Commission. The provisions embodied in this document are mandatory in Hungary as of 1 August 1958. Topics include maximum permissible dosage levels, protection against radiation from closed radioisotopic products, protection in work conducted with open radioisotopic products, neutralization of radioactive waste, directions regarding measuring instruments for radiation protection, and transport and storage of radioactive materials.

Ney, W.
ROLE OF NUCLEAR POWER STATION IN A POWER SYSTEM. 23 Oct 58, 15p. 8 refs. JPRS(NY) rept. no. 828.
Order from OTS $0.50 PB 141 319T

Trans. of Przeglad Elektrotechniczny (Poland) 1958, v. 34, no. 2/3, p. 61-66.

Contents: Factors determining the distribution of nuclear power stations. Danger of radioactive contamination. Facilities for first- and second-degree disturbance protection. Extent of protective zone and dependence of this zone on the capacity of nuclear power stations. Distribution of new nuclear power stations in England. Comparison of power-generation costs in coal-burning and nuclear power stations. Working conditions and power characteristics of atomic power stations. Conditions for stoppage of nuclear power station and the resumption of its operations after a several hour long pause. Relationship between power curve of the station and the degree of exhaustion of the fuel charge in the core.

PHYSICS

*AKADEMIYA NAUK SSR. IZVESTIYA. SERIYA FIZICHESKAYA, 1959, V. 23 (News of the Academy of Sciences of the USSR, Physics Series). [1959]
Order from OTS $0.80, $4.50/6 mo.
Foreign $1.05, $6.00/6 mo.

No. 9, p. 1054-1172, PB 141 041T-21
No. 10, p. 1174-1275, PB 141 041T-22

Consists of abstracts in English.

*PRIBORY I TEKHNIKA EKSPERIMENTA (USSR) 1959, NO. 4, P. 3-163 (Instruments and Experimental Techniques). [1959] 1v. SOV-120-59-4-(1-50)/50.
Order from OTS $0.80, $4.75/year PB 141 120T-10
Foreign $1.05, $6.25/year

Consists of abstracts in English.

REFERATIVNYY ZHURNAL. FIZIKA (USSR) 1959, NO. 9, ABSTRACTS 19468-21650 (Soviet Abstracts. Physics). 18 Jan 60, 139p. JPRS: 2152-N.
Order from OTS $1.00 60-11196

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia, excluding the USSR.

*ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI (USSR) 1959, V. 37, NO. 3(9) P. 589-892 (Journal of Experimental and Theoretical Physics). [1959] 1v. SOV-56-37-3-(1-62)/62.
Order from OTS $1.40, $7.50/6 mo. PB 141 052T-20
Foreign $1.65, $9.00/6 mo.

Consists of abstracts in English.

Gordeyev, G. V.
TRANSVERSE OSCILLATIONS OF AN ELECTRON PLASMA IN A CONSTANT MAGNETIC FIELD. [1959] 10p. 2 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-3710

Trans. of Zh[urnal] Eksp[erimental'noy i] Teor[eticheskoy] Fiz[iki] (USSR) 1953, v. 24, p. 445-453.

Transverse oscillations of a plasma in a constant magnetic field are considered, and a dispersion equation is derived. With increasing magnetic field it is shown that the frequency of the transverse waves increases, and their damping can increase or decrease. Self excitation of oscillations is possible in strong fields. (Author)

Karchevskiy, A. I.
MAGNETOCALORIC EFFECT IN URANIUM HYDRIDE AND DEUTERIDE, tr. by Lydia Venters. July 59, 4p. 6 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-3757

Trans. of *Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki (USSR) 1959, v. 36 [no. 2] p. 638-639.

The measurement of magnetocaloric effect was made at different intensity values of the magnetic field to 17,000 oersted. Curves of the temperature dependence in the 17,000-oer field show maxima corresponding to the ferromagnetic Curie temperatures 182.0° and 178.4°K for uranium hydride and deuteride, respectively. The difference in Curie temperatures, $\Delta\theta = 3.6 \pm 0.4^{\circ}$, is in good agreement with the results published in another paper (Zhur. Eksptl. i Teoret. Fiz. 36: 646, 1959). The absolute value of Curie temperature for uranium hydride agrees with the value obtained by S. T. Lin and A. R. Kaufman (Phys. Rev. 102: 640, 1956) but differs from the value (168°K) recorded by W. E. Henry (Phys. Rev. 109: 1976, 1958), which must be considered erroneous. Uranium hydride and deuteride differ not only by their Curie temperatures, but also by the value of the magnetocaloric effect. The maximum change in temperature, T_m, during an adiabatic magnetization (at Curie point) in uranium hydride is 1.6 times greater than that in uranium deuteride.

Sokolov, I. I.
DEVELOPMENT OF THE METHOD OF TEACHING PHYSICS IN THE USSR (CONTINUATION) (Razvitiye Metodiki Prepodavaniya Fiziki v SSSR) tr. by S. E. [1959] 27p. 102 refs. H-4084.
Order from OTS $0.75 59-21198

Trans. of Fizika v Shkole (USSR) 1957, no. 5, p. 23-36.

Einstein, A.
PROPAGATION OF SOUND IN PARTLY DISSOCIATED GASES. [1959] 7p. 1 ref. A. C. S. I. L. Trans. no. 936.
Order from SLA mi$1.80, ph$1.80 60-10796

Trans. of Akad[emie der] Wiss[enschaften] Berlin. Ber[ichte] (Germany) 1920, v. 19, p. 380-385.

Considerations are presented which show that the reaction velocity can be obtained indirectly from investigations into the propagation of sound in partly dissociated gases. If the volume of a partly dissociated gas is changed adiabatically so rapidly that, during the period in which the volume is changing, practically no perceptible chemical change occurs, the gas then behaves as an ordinary mixture. If, however, the volume is changed so slowly that the process consists practically of purely chemical states of equilibrium, then the relation of the pressure to the density will be different in that the compressibility of the mixture is less in the first case. Thus, the sound velocity must increase with the frequency from the initial value to a limit value. In the case of frequencies lying between these two extremes, the reaction will lag behind the compression in such a way that a kind of time lag will occur in the pressure curve in relation to the density curve, with the conversion of mechanical work into heat.

Landau, L. and Teller, E.
THE THEORY OF SOUND DISPERSION [1959] 10p.
Order from SLA mi$1.80, ph$1.80 60-10823

Trans. of Phys[ikalische Z[eitschrift] d[er] Sowjetunion (Germany) 1936, v. 10, no. 1, p. 34-43.

We show that sound dispersion at temperatures sufficient for the excitation of several vibration quanta are given by the same equations that hold at temperatures at which at most a vibration quantum is excited. Moreover we investigate the transfer of vibrational energy and its relationship to the molecular velocity. In this way we show that only great velocities play a part in the classical phenomenon. We will determine the temperature dependency of the effect. (Author)

Pesin, M. S. and Fabelinskiy, I. L.
DISPERSION OF THE VELOCITY OF SOUND AND THE PROPAGATION OF HYPERSONICS IN LIQUIDS [Dispersiya Skorosti Zvuka i Rasprostraneniye Giperzvuka v Zhidkost'yakh]. [1959] 3p. 14 refs. M558.
Order from LC or SLA mi$1.80, ph$1.80 59-22687

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1958, v. 122, no. 4, p. 575-577.

The measured hypersonic mean velocity, in m/sec, was $1,245 \pm 35$ for methylene chloride at 20° and $1,099 \pm 30$ for methylene bromide at 24°. The experimental values of $\Delta\nu/\nu$ were 12.3% and 11.6%, respectively, for the above liquids. The parameters of the propagation of hypersonics (Zhur. Eksptl. i

Teoret. Fiz. 7: 438, 1937) are tabulated for the two liquids. Present results and previous results (Akad. Nauk SSSR Doklady 92: 285, 1953 and Uspekhi Fiz. Nauk 63: 355, 1957) justify the use of relaxation theory: in all liquids where sound-velocity dispersion has been observed the ultrasonic absorption has been due to a relaxation mechanism.

Electricity and Magnetism

Karchevskiy, A. I., Artyushkov, Ye. V. and Kikoyn, L. I.
ISOTOPIC SHIFT OF CURIE POINT IN URANIUM HYDRIDE AND DEUTERIDE, tr. by Lydia Venters. July 59, 4p. 5 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-3758

Trans. of *Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki (USSR) 1959, v. 36 [no. 2] p. 636-637.

The temperature course of the residual magnetization of uranium hydride and deuteride samples were investigated. The residual magnetization was measured with an astatic magnetometer. The temperature of samples in different experiments was determined either with a copper-constantan thermocouple, or platinum resistance thermometer. About 20 samples of uranium hydride and deuteride were prepared. The amount of impurities in the initial uranium varied within the limits from 0.4% to 0.12%. In all cases the samples of uranium hydride and deuteride were obtained by a direct interaction between uranium-hydrogen and uranium-deuterium at 250°C. Hydrogen and deuterium were obtained by decomposition of a corresponding quantity of uranium hydride or deuteride at 400°C. In all samples, isotopic shift of Curie temperature was observed in the transition from uranium hydride to its deuteride. This shift is not dependent on chemical impurities. The shift of Curie temperature during the transition from uranium hydride to uranium deuteride is 4.0±0.5°K.

Pavlov, T. St.
INFLUENCE OF SOME FACTORS ON THE MAGNETIC MOMENT OF MAGNETOMETERS. 6 Feb 59, 10p. 7 refs. JPRS: L-629-N.
Order from OTS $0.50 59-13122

Trans. of Minno Delo (Bulgaira) 1955 [v. 10] no. 5, p. 85-91.

The influence of mechanical vibration (or pulses) and temperature are reviewed and analyzed.

Ricateau, P.
INTENSE MAGNETIC FIELDS: TABLE OF THE PRINCIPAL RESULTS OBTAINED. [1959] 4p. (foreign text included). CEN-S-PA 7791.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-3700

Trans. of mono. Champs Magnetiques Intenses. Tableau des Principaux Resultats Obtenus, 12 May 58.

Shramkov, E. G., Mitkevich, A. V., and Kovalev, N. B.
STABILITY OF MEASURING INSTRUMENTS UTILIZING MAGNICO AND ALNICO (Stabil'nost Izmeritel'nykh Priborov s Magnico i Al'nico). Mar 58 [10]p. 10 refs. C. T. S. no. 433.
Order from LC or SLA mi$1.80, ph$1.80 60-13173

Trans. of *Elektrichestvo (USSR) 1957, no. 3, p. 62-67.

Investigations of magnetic systems using magnets made of magnico and alnico alloys made it possible to clarify a number of questions relating to the stability of such systems with time and after the action of external factors, and to recommend rational methods to ensure a sufficiently high stability of magnetic systems.

Electronics

Basalayeva, N. Ya. and Savitskaya, Ya. S.
INTER-INSTITUTIONAL SEMINAR ON CATHODE ELECTRONICS [NO. 10]. [1959] 2p. M565.
Order from LC or SLA mi$1.80, ph$1.80 59-22681

Trans. of *Radiotekhnika i Elektronika (USSR) 1958, v. 3, no. 9, p. 1221-1222.

Bellyustin, S. V.
THEORY OF CURRENT IN VACUUM. I. THE CASE OF PLANE PARALLEL ELECTRODES [K Teoriitoka v Vakyyme]. [1959] 26p. 25 refs.
Order from LC or SLA mi$2.70, ph$4.80 AEC-tr-3650

Trans. of Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki (USSR) 1939, v. 9, no. 6, p. 742-759.

The motion of electrons with equal initial velocities between two infinite parallel plane electrodes is investigated. The potential distribution, the field, the space charge and the transmit time of electrons are determined. (Author)

Ovcharov, V. T.
AXIALLY SYMMETRICAL ELECTRON BEAMS OF GIVEN FORM (Aksyal'no-simmetrichnyye Elektronnyye Puchki Zadennoy Formy). Oct 59 [9]p. 1 ref. RTS no. 1228.
Order from LC or SLA mi$1.80, ph$1.80 59-22597

Trans. of Akademiya Nauk SSSR. Doklady, 1956, v. 107, no. 1, p. 47-50.

The problem of the formation of axially symmetrical electron beams is examined in a general manner, and the field of the space charge of the electron beam is taken into account.

Molecular Physics and Spectroscopy

*OPTIKA I SPEKTROSKOPIYA (USSR) 1959, V. 7, NO. 4, P. 437-580 (Optics and Spectroscopy). [1959] 1v. SOV-51-7-4-(1-32)/32.
Order from OTS $0.70, $4.00/6 mo. PB 141 047T-22
Foreign $0.95, $5.50/6 mo.

Consists of abstracts in English.

Akimov, A. I.
A NOMOGRAM FOR USE IN SPECTRUM ANALYSIS OF RARE EARTH ELEMENTS BY THE ADDITION METHOD (Primeneniye Raschetnogo Graduirovochnogo Grafika pri Spektral'nom Analize Radkozemel'nykh Elementov po Metodu Dobavok). [1959] 9p. 7 refs.
Order from LC or SLA mi$1.80, ph$1.80 59-22380

Trans. of Optika i Spektroskopiya (USSR) 1957, v. 2, no. 6, p. 809-811.

A simple method, which uses a nomogram, is described for the calculation of the concentration of the alloying elements. The method presented is based upon the assumption that the value of the coefficient is known.

Bochkova, O. P., Razumovskaya, L. P., and Frish, S. E.
A SIMPLIFIED METHOD OF SPECTRAL ANALYSIS OF INERT GASES FOR PURITY (Uproshchennyy Metod Spektral'nogo Analiza Inertnykh Gazov na Chistotu) tr. by L. Boney. [1959] [5]p. (2 figs. omitted) 4 refs. M 601.
Order from LC or SLA mi$1.80, ph$1.80 59-22647

Trans. of Optika i Spektroskopiya (USSR) 1958, v. 5, no. 1, p. 93-94.

Optics

Glagoleva, T. A. and Trusova, A. F.
MEASUREMENT OF VISIBILITY BY THE POLARIZATION METHOD OF L. L. DASHKEVICH (K Voprosu Izmerenii Vidimosti Polyarizatsionnym Izmeritelem Sistemy L. L. Dashkevicha) tr. by G. T. Cranford. Mar 59 [12]p. 2 refs. Library Communication no. 721; M512.
Order from LC or SLA mi$2.40, ph$3.30 59-22560

Trans. of Svetotekhnika (USSR) 1958, v. 4, no. 8, p. 1-5.

Investigations were aimed at determining the value of the variance between the instrument readings under ordinary conditions of operation and readings taken during the use of the supplementary background.

Kushnir, Yu. M., Biberman, L. M., and Levkin, N. P.
REFLECTION ELECTRON MICROSCOPE (EM-100) tr. by J. W. Menter. [1959] [15]p. 9 refs. TL 894; M218.
Order from LC or SLA mi$2.40, ph$3.30 59-19111

Trans. of [Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya] 1951, v. 15, no. 3, p. 306-316.

Lebedev, A. A.
OPENING REMARKS [AT A] CONFERENCE ON ELECTRON MICROSCOPY HELD IN MOSCOW, 15-19 DEC 50, tr. by J. W. Menter. [1959] [3]p. TL 895; M217.
Order from LC or SLA mi$1.80, ph$1.80 59-19110

Trans. of [Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya] 1951, v. 15, no. 3, p. 283-284.

Milyutin, V. I., Yanchevskiy, K. M. and others.
ELECTRON MICROSCOPE WITH ELECTROSTATIC LENSES ESM-40, tr. by J. W. Menter. [1959] [14]p. 6 refs. TL 897; M 220.
Order from LC or SLA mi$2.40, ph$3.30 59-19113

Trans. of [Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya] 1951, v. 15, no. 3, p. 294-305.

Oshchepkov, P. K.
INFRA-RED MICROSCOPE [Infrakrasnyy Mikroskop]. [1959] [8]p. (foreign text included). M613.
Order from LC or SLA mi$1.80, ph$1.80 59-22635

Trans. of Akad[emiya] Nauk SSSR. Vestnik, 1958 [v. 28] no. 10, p. 64-66.

The infra-red microscope, which was developed in the years 1956-1957 in the Electrophysical Laboratory of the A. A. Baikov Institute of Metallurgy of the USSR Academy of Sciences, is a typical instrument for "introscopy" (visual observation in opaque media), as it includes all elements which are necessary for transforming the invisible radiation into a visual image. It can be used for visual observation of the interior of materials and bodies where the absorption of infra-red rays is relatively small. The microscope gives a magnification of 100 to 600 times. However, the magnification can have any other value dependent on the optical system, in so far as it is compatible with the resolution which, in turn, is determined by the wavelength used. The infra-red image can be produced by means of appropriate refracting or reflecting systems. (Extracted from the report)

Sushkin, M. G. and Stoyanov, P. A.
LONG FOCUS LENS FOR MAGNETIC ELECTRON MICROSCOPE, tr. by J. W. Menter. [1959] [8]p. 4 refs. TL 900; M223.
Order from LC or SLA mi$1.80, ph$1.80 59-19115

Trans. of [Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya] 1951, v. 15, no. 3, p. 341-346.

Sushkin, N. G., Plakhov, A. G. and others.
UNIVERSAL ELECTRON MICROSCOPE FOR 100 KV (UEM-100) tr. by J. W. Menter. [1959] [13]p. 2 refs. TL 899; M222.
Order from LC or SLA mi$2.40, ph$3.30 59-19114

Trans. of [Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya] 1951, v. 15, no. 3, p. 285-293.

Solid State Physics

RUSSIAN SEMICONDUCTOR DEVICES SHOWN AT THE ALL-UNION AGRICULTURAL AND ENGINEERING EXHIBITION, MOSCOW, 1958. [1959] [19]p. M258.
Order from LC or SLA mi$2.40, ph$3.30 59-19139

Trans. of unidentified mono. pub. by Institute of Semiconductors, Acad. of Sciences, USSR.

The devices include (1) a thermoelectric-cooled kit kitchen refrigerator, (2) a semiconducting gamma-ray detector, (3) vitreous semiconductors, (4) cooling stages for a freezing microtome, (5) a condensation thermoelectric hygrometer, (6) a microscope object stage with thermoelectric heating and cooling, (7) thermoelectric apparatus for maintaining "artificial zero", (8) a high-vacuum trap with thermoelectric cooling, and (9) a thermoelectric microthermostat for cooling photoresistances.

Akhundov, G. A. and Abdullayev, G. B.
THE STUDY OF THE DIFFUSION OF COMPONENTS IN Tl_2Se BY THE MARKED ATOMS METHOD. [1959] [2]p. 1 ref. M 314.
Order from LC or SLA mi$1.80, ph$1.80 59-19170

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 119, no. 2, p. 267.

Test pieces were produced by the fusion of thallium and selenium taken in weight ratios according to the stoichiometry of Tl_2Se with an accuracy of $2 \cdot 10^{-4}$ g. The synthesis was carried out in a vacuum of 10^{-3} mm. mercury column at a temperature of 450° for 6 hours. From the bar of Tl_2Se thus produced we prepared several small cylinders approximately 6 mm. in diameter and 12 mm. in length, which were polished on both sides with emery paper. The radioactive isotopes Tl^{204} and Se^{75} were applied electrolytically on to one end face of these cylinders. Diffusion annealing was carried out in an evacuated and sealed-off ampoule at temperatures of 150-300° for 15-50 hours. After annealing, thin layers were removed and the diffused substances were determined by counting the number of pulses produced on a B-2 radiometer. The coefficient of diffusion D was determined from the formula $I(x, t) = ce^{-x2/4 Dt}$, where I is the number of impulses per minute, x is the depth of penetration, t is the time of diffusion, and c is a constant. With a known value of t, D was determined from the tangent of the angle of slope on the graph in the coordinates $\ln I - x^2$. From the variation with temperature of the coefficient D for the diffusion of thallium and selenium in Tl_2Se the following equations were obtained:

$D_{Tl \rightarrow Tl_2Se} = 1 \cdot 17 \cdot 10^{-3} e^{-0.61/kT}$ cm.^{2}sec.$^{-1}$;

$D_{Se \rightarrow Tl_2Se} = 2 \cdot 25 \cdot 10^{-5} e^{-0.58/kT}$ cm.^{2}sec.$^{-1}$;

i. e., for the diffusion of Tl and Se into Tl_2Se the activation energy ΔE and the constant D_0 are equal respectively to 0.61 eV., $1 \cdot 16 \cdot 10^{-8}$ cm.^{2}sec.$^{-1}$ and 0.58 eV.; $2 \cdot 25 \cdot 10^{-5}$ cm^{2}sec.$^{-1}$. (Extracted from the report)

Andriyevskiy, A. I., Nabitovich, I. D., and Kripyakevich, P. I.
ON SELENIUM STRUCTURE IN LAYERS. 25 Aug 59 [8]p. 11 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10914

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 124, no. 2, p. 321-323.

Thin selenium layers (up to 800 or 1000 A) could not be crystallized by heating below 70°, especially on a cellulose-nitrate varnish or celluloid lining, due to the strong interaction (nonchemical) between the molecules of selenium and the lining. The formation of hexagonal selenium at 70° to 100° was accompanied by a large amount of heat, resulting in a disruption of the layer. Se layers between 600 and 800 A are the most suitable for preparing a normal diffraction structure during investigation for passage. The following results were obtained during the thermal treatment of samples without lining. The electronogram of samples kept at 25° for about 5 hr consists of four aureoles which are absent on the electronograms immediately after the preparation of samples. A gradual heating to 30° results in some angular enlargement of all aureoles and the appearance of weak lines on them. At 35° to 40° an electronograph of a polycrystal typical for the α-monoclinic Se modification is noted. A temperature increase to 55° or 60° results in recrystallization and at 65° β-monoclinic Se can be observed. Further increase to 150° or 160° results in gradual recrystallization and after treating the samples at 160° for some time a new modification of Se is formed. The new structure belongs to the cubic syngony (β-cubic) with a bodycenter cubic lattice. The lattice constant is 5.755 ± 0.007 A.

Chumakov, A. A. and Koptsik, V. A.
ATTEMPT TO CRYSTALLIZE NEW PIEZOELECTRIC SUBSTANCES. 19 Oct 59 [8]p. 12 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10931

Trans. of *Kristallografiya (USSR) 1959, v. 4, no. 2, p. 235-238.

Physical-chemical data of 49 piezoelectric substances are tabulated and solvents suitable for the growing of large monocrystals are recommended. Solubility data of these substances in the solvents may be found in standard reference books.

Filonenko, N. Ye. [Lavrov, I. V.] and others.
A NOTE ON THE ALUMINA SPINEL AlO. Al_2O_3. 4 Nov 59, 5p. (4 figs. 1 diagr. omitted) 5 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10066

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1957, v. 115, no. 3, p. 583-585.

Microscopic studies of products derived through the reduction, by hard carbon, of composite parts of high-alumina blast furnace charges revealed an alteration of the corundum phase, resulting in the formation of a transparent isotropic phase whose refractive index varied according to individual grains between 1.77 and 1.80. The assumption that, in the interaction of corundum with carbon in a fusion, the reaction $3Al_2O_3 + C \rightarrow 2Al_3O_4 + CO$ takes place, led to attempts to synthesize the material. A blast furnace mixture was prepared from cleaned, finely ground gamma alumina (100 weight parts) and petroleum coke (4 weight parts) containing less than 0.5% ash. From this thoroughly mixed furnace charge, briquettes with dimensions 15 x 8 mm were formed. They were placed in a Tamman kiln for one hour at temperatures between 1500° and 1800°C. The samples prepared at 1500° were black and contained 3.75% free carbon: the transparent phase was corundum. Samples synthesized at 1600°C and above were white, contained no corundum and consisted almost entirely of the isotropic phase. The texture of the samples varied, depending on the temperature during the heat treatment. The aluminum in the spectra of gamma alumina and corundum was represented by very bright lines at 3082.16 A and at the doublet 3092.7 and 3092.8 A. In the spectra of the spinel there were additional lines: Al 3050, 3054, 3057, 3059, 3064, and 3066, characteristic of reduced aluminum. The reaction between alumina and hard carbon between 1600° and 1800°C resulted in the formation of a spinel of composition $AlO \cdot Al_2O_3$ with a melting point between 1980° and 1990°C, a high microhardness, and a high degree of chemical stability.

Goryunova, N. A. and Burdiyan, I. I.
SOLID SOLUTIONS IN THE SYSTEM AlSb-GaSb.
10 Aug 59 [6]p. 9 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10911

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 120, no. 5, p. 1031-1034.

Experimental data indicate that solid solution of substances of the type $A^{III}B^{V}$ form in a wide range of concentrations only if the relative difference in the electro affinity constant of the substituted elements does not exceed 9.4%.

Mirgalovskaya, M. S. and Skudnova, E. V.
ON THE INTERACTION OF TELLURIUM WITH ALUMINUM ANTIMONIDE. [1959] 7p. 11 refs.
Order from MDF $3.00 MDF M-1

Trans. of A[kademiya] N[auk] SSSR. O[tdeleniye] T[ekhnicheskikh] N[auk]. Izv[estiya]: Metall[urgiya] i Topl[ivo] 1959, no. 2, p. 104-108.

Experiments showed that tellurium is not in equilibrium with aluminum antimonide. The quasi-binary sections of the Al-Sb-Te system are: $AlSb-Al_2Te_3$, $Al_2Te_3-Sb_2Te_3$ and Al_2Te_3-Sb, on which basis the triangulation of the system is made. A considerable domain of solid solutions on an AlSb base in the $AlSb-Al_2Te_3$ section was detected. The solubility of Al_2Te_3 in AlSb reaches 40 at.-% Al_2Te_3.

Ponyatovskiy, Ye. G.
ON THE CRITICAL POINT OF THE CURVE OF A POLYMORPHOUS CERIUM TRANSFORMATION.
8 July 59, 5p. 8 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10912

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 120, no. 5, p. 1021-1023.

The preservation of the lattice symmetry and the decreased difference in the specific volume of the α- and α'-phases along the curve suggests the existence of a critical point on the polymorphous cerium transformation curve. In order to verify this theory, additional investigations of the P-T-cerium diagram, were made using a thermographic analysis method which permits the investigation of the phase transformation of a substance at a pressure up to 35,000 kg. x cm^{-2} and temperatures up to >650°. Cerium containing (in %) <0.75 Nd, <0.75 Pr, 0.01 Fe, $<1.10^{-4}$ Pb was used as test object. The transformation of cerium at room temperature was found to proceed with considerable hysteresis. The transformation hysteresis is reduced with an increase in temperature from 6000 kg. x cm^{-2} at 20° to zero at about 280°. The heat effect of the $\alpha \longrightarrow \alpha'$ transformation is also reduced if the temperature is higher and at temperatures above 280° and corresponding pressure exceeding 18500 kg. x cm^{-2} it becomes so small that no special points are visible on the thermogram. $\alpha \longrightarrow \alpha'$ and $\alpha' \longrightarrow \alpha$ proceed in a considerable pressure limits at constant temperature. By assuming that the heat and volume effect of the cerium transformation at an increased pressure really approach zero, the following theories are put forward on the further program of the equilibrium curve of α-Ce and α'-Ce: 1. The phase transformation curve of the first order passes into that of second order; during this process the difference in the symmetry of α-Ce and α'-Ce is due not to the difference in the symmetry of the crystalline lattices - as is usually the case - but to the difference in the symmetry of electron shells. 2. The curve of the phase transformation of the first order ends in a critical point. Above the critical point there is no phase transformation of the first or of a second order.

Putseykov, Ye. K. and Terenin, A. N.
INFLUENCE OF GASES AND OF VAPORS ON THE PHOTOELECTRIC PROCESSES IN ZINC OXIDE AND IN OTHER SEMICONDUCTORS. [1959] 9p. (2 refs. omitted) 4 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10100

Trans. of Problemy Kinetiki i Kataliza (USSR) 1955, v. 8, p. 53-60.

The gases studied included oxygen, hydrogen, carbon dioxide, water, ethylalcohol, acetone, acetic acid, benzaldehyde, quinone, ammonia, and methyldiphenylamine. The photo emf of 0.1- to 0.2-mm-thick layers of ZnO under an interrupted illumination (50 to 1000 c) was measured by the condenser method (Akad. Nauk SSSR Doklady 59: 471, 1948; and Izvest. Ser. Fiz. 16: 34. 1952). Results indicated that oxygen bound in ZnO

with an excess of Zn is necessary for the photoeffect. Evacuation of air at room temperature (20°) caused a rapid drop of the photo emf of freshly prepared ZnO: this drop does not occur with other semiconductors (e.g., Cu_2O, Ag_2O, PbO, HgO, or Se). The photo emf was restored in 20 to 40 min by the introduction of air, and a 5 to 20% restoration occurred by the introduction of dry O_2 at 0.05 to 20 mm of Hg. Vapors of water, ethylalcohol, acetone, ethylether, or carbon dioxide caused no emf restoration at 20°. A partial restoration reached a stationary value when low-level UV light was admitted in 10-sec flashes following the admission of O_2 in darkness. A rapid drop in the photo emf under continuous illumination was followed by a rapid restoration when the light was switched off. The effect is ascribed to the desorption of oxygen. Vapors of water or ethylalcohol, introduced during or after the adsorption of O_2, produced a sharp 2- to 5-fold increase in the photo emf, compared to the value in air, when the measurements were made by short flashes. (See also 59-17776)

Vartanyan, A. G. and Rozenshteyn, L. D.
PHOTOCONDUCTIVITY OF INDIGO. 24 Aug 59, 5p. 14 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10915

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 124, no. 2, p. 295-297.

Films were investigated which were obtained by the sublimation of the dye in vacuo (about 10^{-5} mm Hg) at 130° to 140°C (Zhur. Fiz. Khim. 30: 1028, 1956). Indigo was found to be photoconductive and to possess properties typical of organic semiconductors. The dark conductivity of the indigo layers increased directly with temperature: between 40° and 110°C the relationship was in accordance with $i_d = i_0 \exp(-E_d/2kT)$ (Akad. Nauk SSSR Izvest. Ser. Fiz. 20: 1541, 1956). Under vacuum conditions the activation energy, E_d, equals 1.75±0.05 ev. Monochromatic light increased the conductivity 100-fold. The application of oxygen increased the photoconductivity similarly to that of anthracene (Akad. Nauk SSSR Doklady 71: 641, 1950) and some phthalocyanins (Akad. Nauk SSSR Doklady 111: 561, 1956; Zhur. Fiz. Khim. 32: 178, 1958): the increase depended on pressure and time of the gas administration. The relationship between photocurrent, i_f, and illumination intensity, L, is expressed by $i_f = aL^n$, where n is a constant not affected by the wavelength. For thin degassified films under vacuum conditions at room temperature $n = 1$. In the presence of oxygen $n < 1$ and depends on gas pressure and contact time. Layers with $n = 0.7$ to 0.8 were obtained. The photocurrent changes with temperature according to $i_f = i_0 \exp(-E_f/2kT)$. Between 0° and 80° the $E_f = 0.4$ ev. The fact that $E_f << E_d$ indicates that during illumination the accumulation of current carriers takes place on levels below the bands of conductivity in the depth E_f.

Vavilov, V. S.
CONTEMPORARY SEMICONDUCTOR PHYSICS, tr. by A. Werner. 16 Nov 59, 14p.
Order from LC or SLA mi$2.40, ph$3.30 60-14079

Trans. of Uspekhi Fizicheskikh Nauk (USSR) 1959, v. 69, no. 1, p. 149-156.

The first part of the present translation consists of the author's first-hand account of the International Conference on Semiconductors, held in August 1958 in Rochester, N. Y. Brief summaries are presented of several papers (mostly by U. S. authors) that were presented at the Conference. The second part of the translation summarizes the information on semiconductor physics in the U. S. A. as obtained by the author on a visit to the basic research departments of Bell Laboratories in New Jersey and General Electric in Schenectady.

Vdovin, Yu. A., Levich, V. G., and Myamlin, V. A.
VOLT-AMPERE CHARACTERISTIC OF THE CONTACT BETWEEN AN ELECTROLYTE AND ELECTRON SEMICONDUCTORS. 8 Sep 59, 8p. 4 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10913

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 124, no. 2, p. 350-353.
Another translation is available from LC or SLA mi$1.80, ph$1.80 as 59-16139, LL-TV-22, 29 Apr 59, 8p.

The contact of an electron semiconductor with an electrolyte is considered. An oxidation-reduction reaction of the type $A^+ + e^- \rightarrow A$ is assumed to proceed with passage of the current. The basic equations for the current and the charge density are converted to dimensionless form and the volt-ampere characteristic is found for a region of small currents. When currents flowing in the barrier direction are negative the potential change obeys the Tafel law. The potential drops for the currents $\pm j$ are compared for asymmetry characteristics of the volt-ampere curve. An estimate of the ratio of the total voltage drop for a barrier current shows that the rectifying effect depends on both the electrochemical reaction occurring on the semiconductor and the properties of the semiconductor. The results obtained may be altered for the case when various reactions predominate for different current directions and may be extended to a hole semiconductor.

Zhuravlev, N. N. and Katsnelson, A. A.
AN X-RAY CAMERA FOR THE INVESTIGATION OF CRYSTALS AT TEMPERATURES RANGING FROM -175°C to +300°C (Rentgenovskaya Kamera dlya Issledovaniya Kristallov v Intervale Temperatur -175°C - +300°C). 14 Oct 59 [6]p. 3 refs. NRL Trans. no. 756.
Order from OTS $0.50 59-21206

Trans. of *Kristallografiya (USSR) 1958, v. 3, no. 5, p. 632-634.

Thermodynamics

Poletavkin, P. G. and Shapkin, N. A.
HEAT TRANSFER IN SURFACE BOILING OF

WATER, tr. by J. B. Sykes. Jan 59 [13]p. 5 refs.
AERE Lib/Trans 813; M 581.
Order from LC or SLA mi$2.40, ph$3.30 59-22666

Trans. of Teploenergetika (USSR) 1958, v. 5, no. 5, p. 49-54.

New experimental data are presented on heat transfer in surface boiling of water, and these are compared with data from the U. S. S. R. Academy of Sciences Institute of Power. Formulae are given which permit calculations over a wide range of variation of the parameters and for channels of various geometrical dimensions. (Author)

Reichardt, H.
THE PRINCIPLES OF TURBULENT HEAT TRANSFER (Die Grundlagen des Turbulenten Wärmeüberganges) tr. by S. Reiss. Sep 57, 45p. 21 refs.
Order from NASA NACA TM-1408

Trans. of [Allgemeine Wärmetechnik] (West Germany) 1951 [v. 2] no. 6/7, p. 129-142.

Relations are derived for calculating heat-transfer coefficients for turbulent and laminar fully developed flow and heat transfer in pipes and channels at constant wall temperature. Nusselt numbers for a round pipe are computed for Prandtl numbers from 0 to 1000 at a Reynolds number of 30,000. The eddy diffusivity of momentum is assumed to vary in a continuous manner from the wall to the center of the channel. For very high Prandtl numbers it is postulated that the eddy diffusivity of momentum varies with the fifth power of the distance from the wall when very close to the wall. (NACA abstract)

Rozen, A. M.
THERMODYNAMIC PREMISES IN DISTILLATION WITH A THIRD COMPONENT. [1959] 6p.
Order from ATS $7.50 ATS-64L35R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1951, v. 81, no. 5, p. 863-866.

Shifrin, A. S.
VISCOSITY OF STEAM AT ATMOSPHERIC PRESSURE. [1959] 10p. 6 refs.
Order from MDF $5.00 MDF S-142

Trans. of Teploenergetika (USSR) 1959, v. 6, no. 9, p. 22-27.

Results are explained of an experimental investigation of the viscosity of steam at temperatures from 149 to 866° C at atmospheric pressure. A two-capillary method, underlying the investigation, is described. A comparison is made with results of other investigations and equations are proposed which will describe the temperature dependence of the viscosity of steam. (Author)

Sirota, A. M. and Mal'tsev, B. K.
EXPERIMENTAL INVESTIGATION OF THE SPECIFIC HEAT OF WATER AT 10-500°C TEMPERATURES AND PRESSURES TO 500 kg/cm^2. [1959] 15p. 17 refs.
Order from MDF $7.50 MDF S-137

Trans. of Teploenergetika (USSR) 1959, v. 6, no. 9, p. 7-15.

A new experimental apparatus is described for the measurement of the specific heat of water c_p at supercritical pressures. Results are presented of measurements at pressures up to 500 kg/sq cm and 10 to 500° C temperatures. The lower pressure limit is the saturation curve at temperatures up to 285° C and 300 kg/sq cm for higher temperatures. The results obtained are compared with the data of other researchers. (Author)

Vargaftik, N. B. and Tarzimanov, A. A.
EXPERIMENTAL INVESTIGATION OF THE HEAT CONDUCTION OF STEAM AT HIGH PRESSURES. [1959] 13p. 26 refs.
Order from MDF $6.50 MDF V-137

Trans. of Teploenergetika (USSR) 1959, v. 6, no. 9, p. 15-21.

Results of experimental investigations of the heat conduction of steam in the 350 to 720° C temperature range at pressures from 5 to 350 kg/sq cm are given. (Author)

Wave Propagation

Fok, V. A., Vaynshteyn, L. A., and Belinka, M. G.
PROPAGATION OF RADIO WAVES NEAR THE HORIZON WITH SUPER-REFRACTION. [1959] [18]p. 4 refs. M255.
Order from LC or SLA mi$2.40, ph$3.30 59-19136

Trans. of Radiotekhnika i Elektronika (USSR) 1956 [v. 1] no. 5, p. 575-592.

The work deals with the calculation of the anomalous propagation of radio waves near the horizon where there is an inversion ground layer (which does not vary in horizontal directions) for several typical examples. Curves have been constructed for the attenuation multiplier in the case where the transmitting aerial is located high above the inversion layer and the receiving aerial within the inversion layer at no great height (or the reverse). The results obtained show the desirability of introducing horizons in the analysis of very long distance propagation, give an estimate of the possible values of the attenuation multiplier at horizons and show the relationship between the attenuation multiplier near horizons and the distance and wavelength. The results obtained may be of importance in analyzing the propagation of decimetre, centimetre and shorter waves in the troposphere. (Author)

Gintsburg, M. A.
ON THE PROPAGATION OF ELECTROMAGNETIC WAVES IN GYROMAGNETIC LAYERS. [1959] 8p. 5 refs.
Order from LC or SLA mi$1.80, ph$1.80 59-20214

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 95, no. 4, p. 753-756.

An examination is made of the dependence of the deflection angle ψ of the plane of polarization of an electromagnetic wave on its propagation distance d in a medium situated in an internal magnetic field.

Nerovnya, L. K.
ABSORPTION OF RADIO WAVES AT NON STATIONARY PROCESSES AND NONLINEAR EFFECTS (Pogloshcheniye Radiovoln pri Nestatsionarnykh Protsessakh i Nelineynyye Effekty). [1959] [25]p. (foreign text included) 22 refs.
Order from LC or SLA mi$2.70, ph$4.80 60-10695

Trans. of [Moscow U. Vestnik. Seriya Matematiki, Mekhaniki, Astronomii, Fiziki, Khimii] (USSR) 1958 [v. 13] no. 2 [p. 93-102].

Consideration is given to the phenomena accompanying the propagation of electromagnetic waves in ionized media, particular the ionosphere, as a result of increased thermal energy of the movement of the electrons, at the expense of the irreversible losses of the energy of the wave. This loss of energy occurs first as a result of nonstationary processes (i. e., the linear effect investigated by M. A. Bonch-Bruyevich in Zhur. Tekh. Fiz. 2; 1932), and second as a result of the dependency of the absorption of the electromagnetic wave from its amplitude (i. e., the nonlinear effect of Bonch-Bruyevich).

RESEARCH METHODS, TECHNIQUES AND EQUIPMENT

AKADEMIYA NAUK SSSR. DOKLADY, 1959, VOL. 126, NO. 5, P. 919-1152 (Reports of the Academy of Sciences SSSR). [1959] 1v. SOV/20-126-5-(1/69)/69.
Order from OTS $1.40, $20.00/6 mo. PB 141 015T-46
Foreign $1.65, $24.50/6 mo.

Consists of abstracts in English.

CONFERENCE ON PROBLEMS OF STATISTICAL CODING. 24 Nov 59, 3p. 14 refs. JPRS: 2032-N.
Order from OTS $0.50 60-11078

Trans. of Akademiya Nauk SSSR. O[tdeleniye] T[ekhnicheskikh Nauk]. Izvestiya: Energetika i Avtomatika, 1959, no. 3, p. 191-192.
Another translation is available from MDF $1.50 as MDF ABCON-2 [1959] 2p.

Authors and titles are given of papers that were read at the conference, which was held in April 1959. Brief summaries or amplifications of the titles are generally included.

*IZMERITEL'NAYA TEKHNIKA (USSR) 1959, (Measurement Techniques). [1959]
Order from OTS $0.70, $4.00/year
Foreign $0.95, $5.50/year

No. 9, p. 1-64, PB 141 112T-15
No. 10, p. 1-64, PB 141 112T-14

Consists of abstracts in English.

SCIENTIFIC INFORMATION REPT. 15 Jan 60, 92p.
Order from OTS $2.75, $28.00/year PB 131 891T-38

Consists of unevaluated information extracted from publications of USSR, Eastern Europe, and China.

AKADEMIYA NAUK URSR, KIEV. DOPOVIDI, 1959, (Reports of the Academy of Sciences UKR SSR). [1959]
Order from OTS $0.60, $3.50/6 mo.
Foreign $0.85, $5.00/6 mo.

No. 7, p. 695-810, PB 141 016T-18
No. 9, p. 931-1041, PB 141 016T-19

Consists of abstracts in English.

SOCIAL SCIENCES

Dorst, Werner.
SOVIET PEDAGOGICAL SCIENCE AND THE EDUCATION OF THE RISING GENERATION IN THE GERMAN DEMOCRATIC REPUBLIC.
13 Apr 59, 11p. 1 ref. JPRS: L-1623-D.
Order from OTS $0.50 59-11513

Trans. of Sovetskaya Pedagogika, 1958 [v. 22] no. 4, p. 121-128.

BOOK REVIEWS

The following book reviews can be ordered by number from LC or SLA. Each review includes, in addition to the material shown, a detailed statement of the coverage of the book and detailed table of contents. The length of each review is indicated at the end of the entry.

BR-SOV/2382
Avramenko, F. D. V. I. Veyts, B. A. Gurevich, V. I. Denisov, A. G. Zakharin, N. A. Karaulov, I. S. Kolosov, N. N. Krachkovskiy, S. N. Kritskiy, M. M. Lebedev, T. K. Leont'yeva, M. F. Menkel', A. S. Nekrasov, G. I. Rossiyevskiy, and B. I. Shvorin
OSNOVNYYE VOPROSY PLANIROVANIYA YEDINOY ENERGETICHESKOY SISTEMY SSSR (Basic Problems in Planning a Unified Power System for the USSR.) Moscow, Izd-vo AN SSSR, 1959. 174p. Errata slip inserted. 2,500 copies printed. 6p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2508
MATEMATICHESKOYE PROSVESHCHENIYE; MATEMATIKA, YEYE PREPODAVANIYE, PRILOZHENIYA I ISTORIYA, VYP. (Mathematical Education; Mathematics, Its Teaching, Application and History, Nr. 4) Moscow, Gostekhizdat, 1959. 15,000 copies printed. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2530
Akademiya nauk Ukrainskoy SSR. Institut elektrotekhniki
VOPROSY MAGNITNYKH IZMERENIY (Problems of Magnetic Measurements) Kiyev, Izdo-vo AN UkeSSR, 1959. 117p. 1,000 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2541
Akademiya nauk SSSR. Energeticheskiy institut
GORENIYE V TURBULENTNOM POTOKE; DISKUSSIYA NA OBSHCHEMOSKOVSKOM SEMINARE PO GORENIYU PRI ENERGETICHESKOM INSTITUTE AN SSSR (Combustion in Turbulent Flow; a Discussion in the All-Moscow Seminar at the Power Engineering Institute, USSR Academy of Sciences) Moscow, Izd-vo AN SSSR, 1959. 167p. Errata slip inserted. 2,000 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2568
Akademiya nauk SSSR. Institut nauchno-tekhnicheskoy informatsii
METALLURGIYA I METALLOVEDENIY; KHIMIYA, METALLOVEDENIYE I OBRABOTKA TITANA (Metallurgy and Metallography; Chemistry, Metallography, and Treatment of Titanium) Moscow, Izd-vo AN SSSR, 1959. 383p. (Series: Itogi nauki; tekhnicheskiye nauki, 2) Errata slip inserted. 2,700 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2569
Grigor'yev, Ivan Andreyevich, and Yevgeniy Romanovich Dvoretskiy
KONTROL' RAZMEROV V MASHINOSTROYENII; SPRAVOCHNOYE POSOBIYE (Inspection of Dimensions in Machine Building; Manual) Moscow, Mashgiz, 1959. 399p. Errata slip inserted. 10,000 copies printed. 7p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2583
International Conference on the Peaceful Uses of Atomic Energy. 2nd, Geneva, 1958.
DOKLADY SOVETSKIKH UCHENYKH; YADERNYYE REAKTORY I YADERNAYA ENERGETIKA. (Reports of Soviet Scientists; Nuclear Reactors and Nuclear Power) Moscow, Atomizdat, 1959. 707p. (Series: Its: Trudy, vol. 2) Errata slip inserted. 8,000 copies printed. 5p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2617
Knorre, G. F., Honored Worker in Science and Technology, RSFSR
TOPOCHNYYE PROTSESSY (Furnace Combustion Processes) 2d ed., rev. and enl. Moscow, Gosenergoizdat, 1959. 395p. 8,500 copies printed. 7p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2626
Voznesenskiy, Boris Nikolayevich, Yevgeniy Andreyevich Zaynchkovskiy, Zoya Il'inichna Prytkova, and ShayaGrigor'yevich Solov'yev
APPARATURA POLUAVTOMATICHESKOY MEZHDUGORODNOY TELEFONNOY SVYAZI; S PRILOZHENIYEM AL'BOMA SKHEM (Equipment for Semiautomatic Intercity Telephone Communication; With Album of Circuits) Moscow, Svyaz'izdat, 1958. 71p. Errata slip inserted. 8,800 copies printed. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2629
Bychkov, Vasiliy Pavlovich
TEORIYA AVTOMATICHESKOGO REGULIROVANIYA I REGULYATORY. LEKTSIYA 2. ELEMENTY SISTEM AVTOMATICHESKOGO REGULIROVANIYA (Theory of Automatic Control and Control Equipment. Lecture 2. Components of Automatic

Control Systems) Moscow, 1958. 53p. 1,000 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2661
Burunova, Nina Mikhaylovna
SPRAVOCHNIK PO MATEMATICHESKIM TABLITSAM; DOPOLNENIYE, No. 1 (Handbook on Mathematical Tables; Supplement, Nr. 1) Moscow, Izdvo AN SSSR, 1959. 183p. Errata noted. 7,000 copies printed. 5p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2665
Moscow. Aviatsionnyy institut imeni Sergo Ordzhonikidze
ISSLEDOVANIYE TOCHNOSTI I POMEKHOUSTOYCHIVOSTI FAZOVYKH RADIOPELENGATOROV; SBORNIK STATEY (Study of the Accuracy and Noise Protection of Phase Radio Direction Finders; Collection of Articles) Leningrad, Sudpromgiz, 1959. 92p. (Series: Its: Trudy, vyp. 105) Errata slip inserted. 4,500 copies printed. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2670
Kozlov, Vladimir Alekseyevich
METODIKA TEKHNIKO-EKONOMICHESKIKH RASCHETOV GORODSKIKH RASPREDELITEL'NYKH ELEKTROSETEY (Methods of Technico-economic Calculation of City Electric Distribution Networks) Moscow, Gosenergoizdat, 1958. 87p. 4,000 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2689
Natanson, Emil' Markovich
KOLLOIDNYYE METALLY (Colloid Metals) Kiyev, Izd-vo AN UkrSSR, 1959. 344p. Errata slip inserted. 3,000 copies printed. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2690
Kopanevich, Yevgeniy Grigor'yevich, Candidate of Technical Sciences
TOCHNOST' DETALEY, IZGOTOVLYAYEMYKH V METALLICHESKIKH FORMAKH (Precision of Parts Made in Metal Molds) Moscow, Mashgiz, 1958. 201p. 3,000 copies printed. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2694
USSR. Vsesoyuznyy komitet standartov
STAL' UGLERODISTAYA OBYKNOVENNOGO KACHESTVA; SORTOVOY I FASONNYY PROKAT (Commercial Grade Carbon Steel; Merchant Bars and Structural Shapes) Official edition. Moscow, Standartgiz, 1956. 205p. (Series: Gosudarstvennyye standarty SSSR) Errata slip inserted. 6,000 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2698
Shifrin, Mikhail Yul'yevich
DEFEKTY TSEL'NOKATANYKH KOLES (Defects in Wrought Steel Wheels) Moscow, Metallurgizdat, 1959. 202p. Errata slip inserted. 1,500 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2701
Ratner, Sof'ya Isaakovna
RAZRUSHENIYE PRI POVTORNYKH NAGRUZKAKH (Failure at Cyclic Loads) Moscow, Oborongiz, 1959. 351p. Errata slip inserted. 3,000 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2707
Kel'zon, Anatoliy Saulovich
DINAMICHESKIYE ZADACHI KIBERNETIKI (Dynamics Problems in Cybernetics) Leningrad, Sudpromgiz, 1959. 295p. 21,000 copies printed. 6p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2711
Mkhitaryan, Artashes Melkonovich
GIDRAVLIKA I OSNOVY GAZODINAMIKI (Hydraulics and Fundamentals of Gas Dynamics) kiyev, Gostekhizdat USSR, 1959. 279p. 5,000 copies printed. 5p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2713
International Conference on the Peaceful Uses of Atomic Energy. 2nd, Geneva, 1958.
DOKLADY SOVETSKIKH UCHENYKH; POLUCHENIYE I PRIMENENIYE IZOTOPOV (Reports of Soviet Scientists; Production and Application of Isotopes) Moscow, Atomizdat, 1959. 388p. (Series: Its: Trudy, vol. 6) 8,000 copies printed. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2714
International Conference on the Peaceful Uses of Atomic Energy. 2nd, Geneva, 1958.
DOKLADY SOVETSKIKH UCHENYKH; YADERNOYE GORYUCHEYE I REAKTORNYYE METALLY. (Reports of Soviet Scientists; Nuclear Fuel and Reactor Metals) Moscow, Atomizdat. 1959. 670p. (Series: Its: Trudy, vol. 3) 8,000 copies printed. 6p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2721
Bannov, Semen Yegorovich
IZGOTOVLENIYE ZAPASNYKH CHASTEY DLYA ELEKTROOBORUDOVANIYA METALLURGICHESKIKH ZAVODO (Manufacturing Spare Parts for the Electrical Equipment of Metallurgical Plants) Moscow, Metallurgizdat, 1959. 243p. Errata slip inserted. 4,000 copies printed. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2722
Verete, Arnol'd Grigor'yevich
SUDOVYYE PAROVYYE TURBINY (Marine Steam Turbines) Leningrad, Izd-vo Morskoy transport, 1959. 406p. Errata slip inserted. 5,000 copies printed. 6p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2723
Losev, Sergey Mikhaylovich
PAROVYYE TURBINY I KONDENSATSIONNYYE USTROYSTVA; TEORIYA, KONSTRUKTSII I EKSPLUATATSIYA (Steam Turbines add Condensers; Theory, Design and Operation) 9th ed., rev. Moscow, Gosenergoizdat, 1959. 384p. Errata slip inserted. 21,000 copies printed. 5p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2724
Kiselev, Vasiliy Ignat'yevich
NASOSY, KOMPRESSORY I VENTILYATORY (Pumps, Compressors, and Fans) Moscow, Metallurgizdat, 1959. 400p. Errata slip inserted. 13,600 copies printed. 5p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2725
Ozol', Vladimir Lyudvigovich
OPYT AVTOMATIZATSII TRUBOPROKATNOY USTANOVKI (Automation of a Pipe-rolling Mill) Khar'kov, Metallurgizdat, 1959. 79p. Errata slip inserted. 2,250 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2727
OBRABOTKA METALLOV DAVLENIYEM; SBORNIK STATEY, VYP. 5 (Metal Forming; Collection of Articles, No. 5) Moscow, Metallurgizdat, 1959. 197p. 3,000 copies printed. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2728
Mikryukov, Vasiliy Yemel'yanovich, Doctor of Physical and Mathematical Sciences
TEPLOPROVODNOST' I ELEKTROPROVODNOST' METALLOV I SPLAVOV (Thermal and Electrical Conductivity of Metals and Alloys), Moscow, Metallurgizdat, 1959. 260p. Errata slip inserted. 4,000 copies printed. 5p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2729
Dobrovol'skiy, Viktor Afanas'yevich, Konstantin Ivanovich Zablonskiy, Solomon L'vovich Mak, Aleksandr Semenovich Radchik, and Lazar' Borisovich Erlikh
DETALI MASHIN (Machine Elements) 3rd ed., rev. and enl. Kiyev, Mashgiz, 1959. 581p. 100,000 copies printed. 8p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2738
Pevzner, Boris Moiseyevich
SUDOVYYE TSENTROBEZHNYYE I OSEVYYE NASOSY (Centrifugal and Axial Marine Pumps) Leningrad, Sudpromgiz, 1958. 319p. Errata slip inserted. 4,500 copies printed. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2745
Itskhoki, Yakov Semenovich
IMPUL'SNYYE USTROYSTVA (Pulse Devices) Moscow, Izd-vo "Sovetskoye radio," 1959. 727p. Errata slip inserted. No. of copies printed not given. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2746
Akademiya nauk USSR. Fiziko-tekhnicheskiy institut
ELEKTROSTATICHESKIYE GENERATORY; SBORNIK STATEY (Electrostatic Generators; Collection of Articles) Moscow, Atomizdat, 1959. 255p. 4,100 copies printed. 5p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2750
Kadaner, Lev Il'ich
ELEKTRICHESKIYE POLYA V ELEKTROLIZERAKH (Electric Fields in Electrolyzers) Kharkov, Metallurgizdat, 1959. 163p. Errata slip inserted. 2,700 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2751
Krasnov, Isay Borisovich
PLANIROVANIYE ELEKTRIFIKATSII NARODNOGO KHOZYAYSTVA (Electrification Planning in the National Exonomy) Moscow, Gosplanizdat, 1958. 63p. (Series: V pomoshch' ekonomistu i planoviku) Errata slip inserted. 12,000 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2752
Barun, Vladimir Abramovich, and Aron Abramovich Budinskiy
AVTOMATICHESKOYE UPRAVLENIYE METALLOREZHUSHCHIKH STANKOV; SREDSTVA AVTOMATIZATSII I IKH ISPOL'ZOVANIYE (Automatic Control of Metal-cutting Machine Tools; Automation Systems and Their Uses) Moscow, Mashgiz, 1959. 295p. Errata slip inserted. 10,000 copies printed. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2753
Lachinov, Nikolay Vladimirovich
REMONT I NADZOR ZA PODSHIPNIKAMI VSPOMOGATEL'NYKH MEKHANIZMOV TEPLOVYKH ELEK ELEKTROSTANTSIY (Repair and Inspection of Bearings of Auxiliary Equipment of Thermoelectric Power Plants) [Irkutsk] Irkutskoye knizhnoye izd-vo, 1958. 97p. 1,000 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2756
Modrinskiy, Nikolay Ivanovich
PRIMENENIYE KRAKOVYANOV V GEODEZICHESKIKH VYCHISLENIYAKH (Application of Cracovians in Geodetic Calculations) Moscow, Geodezizdat, 1959. 179p. Errata slip inserted. 3,000 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2758
Krylov, Vladimir Ivanovich
PRIBLIZHENNOYE VYCHISLENIYE INTEGRALOV (Approximate Integration) Moscow, Fizmatgiz, 1959. 327p. Errata slip inserted. 12,000 copies printed. 5p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2760
Vekua, Il'ya Nestorovich
OBOBSHCHENNYYE ANALITICHESKIYE FUNKTSII (Generalized Analytical Functions) Moscow, Fizmatgiz, 1959. 628p. Errata slip inserted. 6,000 copies printed. 5p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2761
Bandurin, Mikhail Kuz'mich, and Lev Grigor'yevich Rukin
SBORNIK ZADACH PO TEORII VZRYVCHATYKH VESHCHESTV (Collection of Problems on the Theory of Explosives) Moscow, Oborongiz, 1959. 187p. Errata slip inserted. 5,000 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2764
Tsentral'nyy nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut
ISSLEDOVANIYE RASPYLIVANIYA I GORENIYA DIZEL'NOGO TOPLIVA (Investigation of Atomization and Combustion of Diesel Fuel) Moscow, Mashgiz, 1959. 115p. (Series: Its: [Trudy] vyp. 87) 1,275 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2773
POLUPROVODNIKOVYYE TERMOSOPROTIVLENIYA; SBORNIK STATEY (Thermistors; Collection of Articles) Moscow, Gosenergoizdat, 1959. 229p. 13,000 copies printed. 6p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2774
NOVAYA APPARATURA RADIOVESHCHATEL'NOGO TRAKTA; INFORMATSIONNYY SBORNIK (New Equipment of a Broadcasting System; Information Series) Moscow, Svyaz'izdat, 1959. 56p. (Series: Tekhnika svyazi) 10,000 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2776
NOVOYE V ZHELEZNODOROZHNOY AVTOMATIKE, TELEMEKHANIKE I SVYAZI: SBORNIK STATEY (New Developments in Railroad Automamation, Remote Control, and Communications; Collection of Articles) Moscow, Transzheldorizdat, 1959. 198p. 3,000 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2777
Sobolev, Nikolay Pavlovich
INSTRUMENTAL'NO-LEKAL'NYYE RABOTY (Tool, Gage, and Template Making) 3rd ed., rev, and enl. Moscow, Trudrezervizdat, 1959. 274p. Errata slip inserted. 25,000 copies printed. 5p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2779
Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Leningradskoye oblastnoye pravleniye
GIDRODINAMICHESKIYE PEREDACHI (Hydrodynamic Transmissions) Moscow, Mashgiz, 1959. 245p. (Series: Its: Trudy, vyp. 52) 3,000 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2780
Veyts, Vladimir L'vovich, Vladimir Kirillovich Dondoshanskiy, and Vyacheslav Ivanovich Chiryayev
VYNUZHDENNYYE KOLEBANIYA V METALLOREZHUSHCHIKH STANKAKH; RASCHET DETALEY I UZLOV (Forced Vibrations in Metal-cutting Machine Tools; Design of Parts and Subassemblies) Moscow, Mashgiz, 1959. 287p. Errata slip inserted. 5,500 copies printed. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2781
Sosnenko, Mikhail Nikolayevich
SOVREMENNYYE LITEYNYYE FORMY (Modern Foundry Molds) Moscow, Mashgiz, 1959. 274p 15,000 copies printed. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2784
Zhdanov, Aleksandr Ivanovich, Candidate of Economical Sciences
METODIKA OPREDELENIYA EKONOMICHESKOY EFFEKTIVNOSTI MODERNIZATSII OBORUDOVANIYA (Methods of Determining Economic Efficiency in the Modernization of Equipment) Moscow, Gosplanizdat, 1959. 109p. Errata slip inserted. 5,000 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2785
Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Belorusskoye respublikanskoye pravleniye
PUTI SOVERSHENSTVOVANIYA TEKHNOLOGICHESKIKH PROTSESSOV NA MINSKOM PODSHIPNIKOVOM ZAVODE (Improving Technological Processes at the Minsk Bearing Plant) Minsk, Gos. izd-

vo BSSR, 1958. 226p. 2,000 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-CZECH/2788
Hrdy, Jaroslav
OBSLUHA MALYCH VODNICH ELEKTRAREN (Maintenance of Small Hydroelectric Power Stations) Prague, Statni Nakladatelstvi Technicke Literatury, 1958. 202p. 2,000 copies printed. 6p. Microfilm $1.80, Photocoty $1.80.

BR-SOV/2791
Belyayev, A. A.
OPYT EKSPLUATATSII KOTEL'NOGO OBORUDOVANIYA PERVOY ELEKTRICHESKOY STANTSII SVERKHVYSOKIKH PARAMETROV (Operating Boiler Installation Equipment of the First Superhigh Parameter Electric Power Station) Moscow, Gosenergosizdat, 1958. 63p. (Series: Iz opyta sovetskoy energetiki) 5,350 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2794
Akademiya nauk Ukrainskoy SSR. Institut teploenergetiki
IZUCHENIYE I KONPLEKSNAYA PERERABOTKA SMOL I BITUMOV BURYKH UGLEY DNEPROVSKOGO BASSEYNA, CH. 2 (Study of Tars and Bitumens of Dnépr Basin Brown Coal and Their Comprehensive Conversion, Pt. 2) Kiyev, 1958. 127p. 1,000 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2795
Poluektov, N. S.
METODY ANALIZA PO FOTOMETRII PLAMENI (Methods of Analysis by Flame Photometry) Moscow, Goskhimizdat, 1959. 230p. Errata slip inserted. 4,000 copies printed. 6p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2797
Leypunskiy, Ovsey Il'ich
GAMMA-IZLUCHENIYE ATOMNOGO VZRYVA (Gamma Radiation From an Atomic Explosion) Moscow, Atomizdat, 1959. 154p. Errata slip inserted. 7,000 copies printed. 2p. $1.80, Photocopy $1.80.

BR-SOV/2800
USSR. Ministerstvo svyazi. Tekhnicheskoye upravleniye
NOVYYE RAZRABOTKI PO ORGANIZATSII POCHTOVOY SVYAZI; INFORMATSIONNYY SBORNIK (New Developments in the Organization of Postal Communication; Collection of Information Articles) Moscow, Svyaz'izdat, 1958, 166p. (Series: Teknika svyazi) Errata slip inserted. 8,600 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2802
Brenner, Mark Mironovich
PLANIROVANIYE NEFTEDOBYVAYUSHCHEY PROMYSHLENNOSTI (Planning in the Oil-extracting Industry) Moscow, Gostoptekhizdat, 1959. 172p. Errata slip inserted. 2,650 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2803
Alfimova, Irina Alekseyevna, Polina Moiseyevna Blekher, and Antonina Ivanovna Zaytseva
SBORNIK ZADACH PO TOKARNOMU DELU (Collection of Problems on Lathe Operation) 3rd ed., rev. and enl. Moscow, Trudrezervizdat, 1959. 194p. 25,000 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2804
Filippov, Sergey Ivanovich, Petr Pavlovich Arsent'yev, and Valentin Viktorovich Yakovlev
KONVERTERNAYA PLAVKA STALI (Converter Steelmaking) Moscow, Metallurgizdat, 1959. 432p. 3,000 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2805
Yegorova, Yekaterina Nikolayevna
METODY VYDELENIYA KREMNEVOY KISLOTY I ANALITICHESKOGO OPREDELENIYA KREMNEZEMA (Methods for Isolating Silicic Acid and For the Analytical Determination of Silica) Moscow, AN SSSR. 1959. 148p. Errata slip inserted. 2,500 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2807
Shchigolev, Petr Vasil'yevich
ELEKTROLITICHESKOYE I KHIMICHESKOYE POLIROVANIYE METALLOV (Electrolytic and Chemical Polishing of Metals) Moscow, AN SSSR, 1959. 186p. Errata slip inserted. 5,000 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2809
Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk
TERMODINAMIKA I STROYENIYE RASTVOROV; TRUDY SOVESHCHANIYA... (Thermodynamics and Structure of Solutions; Transactions of the Conference Held January 27-30, 1958) Moscow, Izdvo AN SSSR, 1959. 295p. 3,000 copies printed. 5p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2810
Florinskiy, Mikhail Mikhaylovich, Doctor of Technical Sciences
NASOSY I NASOSNYYE STANTSII (Pumps and Pumping Stations) Moscow, Sel'khozgiz, 1959. 364p. Errata slip inserted. 5,000 copies printed. 5p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2811
Balin, Andrey Fedorovich
POPERECHNO-VINTOVAYA PROKATKA KUZNECHNYKH ZAGOTOVOK (Helical Cross Rolling of Forged Blanks) Moscow, Mashgiz, 1959. 74p. 2,500 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2812
Akademiya nauk SSSR. Institut metallurgii
VYPLAVKA FERROSPLAVOV V DOMENNOY PECHI NA DUT'YE, OBOGASHCHENNOM KISLORODOM (Blast Furnace Production of Ferroalloys with Oxygen-enriched Blast) Moscow, Izd-vo AN SSSR, 1959. 142p. Errata slip inserted. 2,700 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2813
SINKHRONNYYE DVIGATELI; SBORNIK STATEY (Synchronous Motors; Collection of Articles) Moscow, Gosenergoizdat, 1959. 222p. 6,500 copies printed. 4p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2814
Levin, Abram Naumovich, Doctor of Technical Sciences, Professor
PLASTMASSY V MASHINOSTROYENII (Plastics in Mechanical Engineering) Moscow, Izd-vo "Znaniye", 1959. 44p. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya IV, 1959, no. 21) 48,000 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2815
Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy promyshlennosti. Leningradskoye oblastnoye pravleniye. Sektsiya priborov teploenergeticheskogo kontrolya i avtomatiki
TEPLOENERGETICHESKIYE I KHIMIKO-TEKHNOLOGICHESKIYE PRIBORY I REGULYATORY (Instruments and Regulating Devices in Heat Power and Chemical Engineering) Moscow, Mashgiz, 1959. 210p. (Series: [Sbornik trudov] vyp. 4) Errata slip inserted. 5,000 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2818
Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki
RAZVEDOCHNAYA I PROMYSLOVAYA GEOFIZIKA, VYP. 21. (Exploration and Industrial Geophysics, No. 21) Moscow, Gostoptekhizdat, 1958. 112p. (Series: Obmen proizvodstvennym opytom) Errata slip inserted. 4,500 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2823
Stotskiy, Lev Rudol'fovich
TEPLOSILOVOYE KHOZYAYSTVO PREDPRIYATIY NEFTYANOY I GAZOVOY PROMYSHLENNOSTI (Heat-Power Economy of Oil and Gas Industry Enterprises) Moscow, Gostoptekhizdat, 1959. 552p. Errata slip insertec' 4,650 copies printed. 5p. Microfilm $1.80, Photocopy $1.80

BR-SOV/2824
Montazhkhimzashchita, trust. Byuro proyektno-konstruktorskoy i tekhnicheskoy pomoshchi
ANTIKORROZIYNYYE POKRYTIYA STROITEL'NYKH KONSTRUKTSIY I APPARATURY; SPRAVOCHNOYE POSOBIYE (Anticorrosive Coatings for Construction Elements and Equipment; a Manual) Moscow, Gosstroyizdat, 1959. 266p. 7,500 copies printed. 6p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2825
Novozhilov, Yuriy Viktorovich
ELEMENTARNYYE CHASTITSY (Elementary Particles) Moscow, Fizmatgiz, 1959. 184p. 15,000 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2826
Sevost'yanov, Aleksey Grigor'yevich
PRIMENENIYE RADIOAKTIVNYKH IZLUCHENIY DLYA KONTROLYA, REGULIROVANIYA I ISSLEDOVANIY V PRYADIL'NOM PROIZVODSTVE (Use of Radioactive Rays for Control, Regulation, and Research in the Spinning Industry) Moscow, Gizlegprom, 1958, 57p. 2,500 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-CZECH/2827
Panc, Vladimir, Candidate of Technical Sciences, Engineer
STATIKA TENKOSTENNYCH PRUTU A KONSTRUKCI (Design of Thin-walled beams and Structures for Static Loads) Prague, Nakladatelstvi Ceskoslovenske Akademie Ved, 1959. 423p. (Series: Ceskoslovenska Akademie Ved. Studie a prameny Sekce technicka) 1,750 copies printed. 5p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2829
Grokhol'skiy, Nikolay Fedorovich
RUCHNAYA SVARKA TREKHFAZNOY DUGOY (Manual Three-phase Arc Welding) 2nd ed., rev. and enl. Moscow, Mashgiz, 1959. 99p. 8,500 copies printed. 2p. Microfilm $1.80, Photocopy $1.80.

BR-SOV/2830
Korsakov, Vladimir Sergeyevich, Doctor of Technical Sciences, Professor
RASCHETY I KONSTRUIROVANIYE PRISPOSOBLENIY V MASHINOSTROYENII (Design and Construction of Fixtures in Machine Building) Moscow, Mashgiz, 1959. 215p. Errata slip inserted. 17,000 copies printed. 3p. Microfilm $1.80, Photocopy $1.80.

TRANSLATIONS IN PROCESS BY GOVERNMENT AGENCIES

THE GREEK MERCHANT MARINE.
Journal de la Marine Marchande [et des Voies Navigables] (France) 1959, 23 July.

INSTRUCTIONS FOR BLAST-SAFE SHELTERS.
mono. Richlinien für Luftstossichere Schutabauten, 1959.

INSTRUCTIONS FOR RADIATION-SAFE SHELTERS.
MONO. Richlinien für Strahlungssichere Schutz-Bauten, 1959.

INVESTIGATION OF CLOUDS, PRECIPITATIONS AND THUNDERSTORM ELECTRICITY.
mono. pub. Leningrad, 1957.

PRELIMINARY INSTRUCTIONS FOR THE COMPLETION IN THE RECONDITIONING OF BOMB SHELTERS.
mono. Vorlaufige Richtlinien für den Ausbau bei der Wiederinstandsetung von Schutzbunkern, 1958.

PRELIMINARY INSTRUCTIONS FOR THE INSTALLATION OF HIGH AND WEAK CURRENT PLANTS IN THE RECONDITIONING OF BOMB SHELTERS.
Vorlaufige Richtlinien für die Ausstatung mit Elektrischen Stark und Schwachstromanlagen bei der Wiederinstandsetzung von Schutzbunkern, 1958.

PRELIMINARY INSTRUCTIONS FOR THE INSTALLATION OF VENTILLATION PLANTS IN THE RECONDITIONING OF BOMB SHELTERS.
mono. Vorlaufige Richtlinien für den Einbau von Beluftungsanlagen bei der Wiederinstandsetzung von Schutzbunkern, 1958.

PRELIMINARY INSTRUCTIONS FOR THE WATER SUPPLY AND SEWAGE DISPOSAL IN THE RECONDITIONING OF BOMB SHELTERS.
mono. Vorlaufuge Richtlinien für die Versorgung mit Wasser und für die Entwasserung bei der Wiederinstandsetzung von Schutzbunkern, 1958.

PROBLEMS OF THE PHYSIOLOGICAL EFFECT AND THERAPEUTIC APPLICATION OF AIR IONS.
Unidentified Russian mono. Riga, 1959, p. 29, 51-52, 59, 76-77, 95-96, 116-117, 133-134, 150-151, 160, 169-170, 184-185, 202-203, 213, 230, 237-240, 247, 264, 272, 277-278, 281-284, 295, 304-305, 318, 328, 338-339, 348, 362, 371-372, 377, 384, 396-397, 404, 420-421.

RADIOACTIVE CONTROL AND REGULATION METHODS OF INDUSTRIAL PROCESSES.
mono. Radioaktionye Metody Kontrolya i Regulirovaniya Proizodstvennykh Protsessov, Riga, 1959, 295p.

VISIT OF PROFFESSOR V. S. EMELYANOV AND DELEGATION TO ARGONNE NATIONAL LABORATORY, NOVEMBER 1959.

Adrianov, V. M. and Shorin, S. N.
RADIANT HEAT TRANSFER IN A FLOWING RADIATING MEDIUM.
Akad[emiya] Nauk SSSR. Otdel[eniye] Tekh[nicheskikh] Nauk. Izvest[iya], 1958, no. 5, p. 46-53.

Aizenberg, O. Z.
MICROWAVE ANTENNAS.
Unidentified Russian mono. p. 286, 335-336, 359, 564-573, 634-636, 665-667, 668-672, 675-685.

Akishin, A. I.
A HIGH VACUUM RADIOACTIVE IONISATION MANOMETER.
Prib[ory] i Tekh[nika] Eksp[erimental] (USSR), 1959, no. 2, p. 78-80.

Andriukhina, E. D., Grebenshchikov, S. E. and others.
SOME CHARACTERISTICS OF INDUCTION GAS DISCHARGE.
mono. Nekotorye Osobennosti Induktsionnykh Gazovykh Razriadov, 1959.

Blokhintsev, D.
THEORY OF THE STARK EFFECT IN A FIELD VARYING WITH TIME.
Physil[alische] Zeitschrift der Sowjetunion (Germany) 1933, v. 4, p. 501-515.

Bohm, H.
TECHNICAL POSSIBILITIES FOR RADIATION MONITORING IN GASES WITH IONIZATION CHAMBERS (Derseitige Technische Moglichkeiten zur Strahlengsuberwachung in Gasen mit Ionizationskammern).
Atompraxis (West Germany) 1957, v. 3, p. 369-372.

Buchner, W.
CONTINUOUS MEASUREMENT OF THE RADIOACTIVE AEROSOL CONTENT OF THE AIR (Kontinuerliche Messung des Radioaktiven Aerosolgehaltes der Luft).
Atompraxis (West Germany) 1957, v. 3, p. 382-388.

Bune, N. Ya., Kolotyrkin, Ya. M., and Tyunkov, G. S.
ELECTROCHEMICAL AND CORROSION BEHAVIOR OF STEEL AND NICKEL ELECTRODES IN SULPHURIC ACID SOLUTIONS SUBJECTED TO THE ACTION OF γ RAYS.
Zhur[nal] Fiz[icheskoy] Khim[ii] (USSR) 1958, v. 32, p. 2679-85.

Dame, G.
SHIPBUILDING AND SHIPPING IN SOCIALIST COUNTRIES.
Seesport (Germany) 1959, no. 3, p. 27.

Danilov, V. I., Dmitrievskiy, V. P. and others.
FORMATION OF A MAGNETIC FIELD OF A CYCLOTRON WITH SPATIAL VARIATIONS.
mono. from Joint Inst. for Nuclear Research, Dubna (USSR) 1959, p. 373, 27p.

Danilov, V. I., Zaplatin, N. L. and others.
FORMATION OF THE AXIALLY-SYMMETRIC MAGNETIC FIELD.
mono. Joint Inst. for Nuclear Research, Dubna (USSR) 1959, p. 344, 29p.

Daniyel-Bek, V. S. and Mints, M. Z.
THE STUDY OF FUEL CELLS WITH SOLID ELECTROLYTES.
Sovershch niye po Elektrokhimii (no. 4) Trudy (USSR) 1959, p. 794-800.

Emelyanov, V. M. and others.
A SYSTEM FOR THE AUTOMATIC REGULATION OF PRESSURE AND FLOW OF GASES.
Zavodskaya Lab[oratoriya] (USSR) 1959, [v. 25,] no. 4, p. 490-491.

Feygin, L. A.
DISTORTION OF THE GRAPHITE STRUCTURE DURING MECHANICAL DISPERSION.
Akademiya Nauk SSSR. Doklady 1959, v. 127, no. 2, p. 313-315.

Fick, Adolf.
ON DIFFUSION.
Annalen der Physik (Germany) 1855, Ser. 2, v. 94, p. 59-86.

Fiebiger, F.
THE FORMATION OF SELF-TARGETS FOR THE NUCLEAR REACTION D(d, n) He^3 AND ITS CONNECTION WITH THE PROBLEM OF HYDROGEN DIFFUSION IN METALS.
Z[eitschrift] für Angew[andte] Physik (West Germany) 1957, v. 9, p. 213-223.

Frantsevich, I[van] N[ikitich]
POWDER METALLURGY (Poroshkovaya Metallurgiya).
Vsesoyuznoye Obshchestvo po Rasprostraneniyu Politicheskikh i Nauchnykh Znaniy, Seriya IV (USSR) 1958, no. 34-35, 70p.

Gfeller, C., Herr, W. and others.
CHLORINE-36 IN METEORITES.
Helvetica Physica Acta (Switzerland) 1959, v. 32, p. 277-279.

Grigolyuk, E. I.
SMALL VIBRATIONS OF THIN ELASTIC CONICAL SHELLS (O Malykh Kolebaniyakh Tonkikh Uprugikh Konicheskikh Obolochek).
Akademiya Nauk SSSR. Otdel[eniye] Tekh[nicheskikh] Nauk. Izvest[iya] 1956, no. 6, p. 35-44.

Herr, W. and Merz, E. and others.
ISOTOPE ANALYSES OF OSMIUM FROM IRON METEORITES AND FROM TERRESTIAL SOURCES.
Helvetica Physica Acta (Switzerland) 1959, v. 32, p. 282-284.

Herrman, G.
CHEMICAL MONITORING OF THE DISSEMINATION OF RADIOACTIVE SUBSTANCES.
Angew[andte] Chemie (West Germany) 1959, v. 71, p. 561-571.

Huber, P. and Wagner, R.
MECHANISM OF (n, 2n) REACTION IN Be^9 AND DIFFERENTIAL CROSS SECTION FOR $\psi = 90^o$ AT A NEUTRON ENERGY OF 3.7 MEV.
Helv[etica] Phys[ica] Acta (Switzerland) 1957, v. 30, p. 257-260.

Hürlimann, T., Schmid, P., and Winkler, H.
REACTOR OSCILLATOR FOR DETERMINING MACROSCOPIC ABSORPTION CROSS-SECTIONS FOR THERMAL NEUTRONS.
Z[eitschrift] für Angew[andte] Math[ematik] und Physik (Switzerland) 1959, v. 10, p. 438-441.

Joos, G. and Klopfer, A.
TEMPERATURE DEPENDENCE OF THE OPTICAL CONSTANTS OF COPPER, SILVER AND GOLD DOWN TO 20^oK.
Zeitschrift für Physik (West Germany) 1954, v. 138, p. 251-265.

Kast, W.
ORIENTATION STATES IN HIGH POLYMERS (Orientierungszustande in Hochpolymeren).
Kolloid-Zeitschrift (West Germany) 1951, v. 120, no. 1-3, p. 40-57.

Keim, Hubert
NUMBER OF CASUALTIES AND THE DAMAGE EXTENT AFTER THE ATOMIC BOMB ATTACK ON HIROSHIMA AND NAGASAKI (Verlustziffern und Schadensausmass nach den Atombomberwurfen auf Hiroshima und Nagasaki).
Strahlentherapie (West Germany) 1959, v. 108, p. 594-601.

Kida, K., Abe, M. and others.
SOME ASPECTS OF THE VACUUM HOT PRESSING OF HIGH GRADE BERYLLIA.
Nihon-Genshiryoku-Gakkai Shi (Japan) 1959, v-1, no. 4, p. 259-271.

Kozyrskiy, G. Ya. and others.
THE STRUCTURAL CHANGES DURING CREEP IN A NICKEL-CHROMIUM ALLOY.
Akad[emiya] Nauk SSSR. Otdel[eniye] Tekh[nicheskikh] Nauk. Izvest[iya] 1958, no. 8, p. 90-92.

Kurbangalina, R. Kh.
CAPACITY OF DETONATION OF LIQUID EXPLOSIVE MIXTURES BASED ON NITRIC ACID.
Zhur[nal] Prik[ladnoy] Khim[ii] (USSR) 1959, v. 32, no. 7, p. 1467-1470.

Lyashenko, V. S.
THE EFFECTS OF NEUTRON IRRADIATION ON THE STRUCTURE AND PROPERTIES OF FERRITE PERLITE STEELS.
Atomnaya Energiya (USSR) 1959, v. 6, no. 3, p. 277-280.

Moravskiy, V. E.
NEW CAPACITATOR MACHINES FOR SPOT-WELDING THIN METAL.
Svarochnoye Proizvodstvo (USSR) 1958, no. 1, p. 40-42.

Naumann, H. H.
DOSIMETRY WITH IONIZATION CHAMBERS (Dosimetrie mit Ionizationakammern).
Atompraxis (West Germany) 1957, v. 3, p. 362-368.

Nisel'son, L. A.
SEPARATION AND PURIFICATION OF TANTALUM AND NIOBIUM BY DISTILLING THE PENTACHLORIDES.
Zhur[nal Neorg[anicheskoy] Khim[ii] (USSR) 1958, v. 3, no. 12, p. 2603-2617.

Nishiguchi, K., Maruo, H. and others.
STUDIES OF DEUTERIUM PLASMA IN HEAVY CURRENT LINEAR PULSE DISCHARGES.
Nihon-Genshiryoku-Gakkai Shi (Japan) 1959, v. 1, no. 2, p. 115-122.

Nishiwaki, Y.
ON THE METHOD OF ESTIMATION OF THE POPULATION DOSE, POPULATION, AND SURFACE AREA COVERED BY THE DIFFUSION OF RADIOACTIVE CLOUD.
Nihon-Genshiryoku-Gakkai Shi (Japan) 1959, v. 1, no. 1, p. 1-8.

Oberhettinger, F. and Magnus, W.
APPLICATION OF THE ELLIPTIC FUNCTIONS IN PHYSICS AND TECHNOLOGY.
mono. Anwendung der Elliptischen Funktionen in Physik und Technik, 1949, p. 50-65.

Omel'yanovskaya, N. M.
EFFECT OF IRRADIATION ON THE MAGNETIC PROPERTIES OF FERRITES.
Atomnaya Energiya (USSR) 1959, v. 7, no. 1, p. 66-68.

Omura, M. Nakamura, S. and others.
ON THE CONSTRUCTION OF THE TOKAI LABORATORY OF THE JAPAN ATOMIC RESEARCH INSTITUTE.
Nihon-Genshiryoku-Gakkai Shi (Japan) 1959, v. 2, p. 143-146.

Oyama, A. and Kiyose, R.
THE TIME-DEPENDENT CHANGES OF OPERATION CONDITIONS OF A THORIUM HOMOGENEOUS POWER REACTOR BEFORE THE STEADY STATE.
Nihon-Genshiryoku-Gakkai Shi (Japan) 1959, v. 1, p. 64-69.

Perov, G. I.
THE CALCULATION OF THE EFFECTIVE REFLECTION AREA OF A SURFACE TARGET IN THE CENTIMETER WAVELENGTH RANGE. (K Voprosu o Raschete Effektivnoy Ploshchadi Otrazheniya Poverkhnostnoy Tseli v Santimetrovom Diapazone Voln).
Radiotekhnika (USSR) 1956, v. 11, no. 7, p. 57-59.

Pfau, A.
CONSIDERATION ON THE MEASUREMENT AND MONITORING OF RADIOACTIVITY IN WATER (Allgemaine Betrachtungen zur Messung und Uberwachung der Radioaktivitat in Wasser).
Atompraxis (West Germany) 1957, v. 3, p. 389-398.

Sokolov, A. A.
INTRODUCTION TO QUANTUM ELECTRODYNAMICS.
mono. Voyedeniye v. Kvantovuyu Electrodinamiku, Moscow, 1958, 534p.

Teissier, Pierre
ATOMIC AIR-RAID SHELTER.
mono Abri Anti-Atomique, 1959.

Toshiyuki, Sugino
MERCURY FLOW IN MERCURY-CHLORINE CELLS.
Denki Kagaku (Japan) 1952, v. 20, p. 495-502.

Vasilevskaya, D. P., Glazov, A. A. and others.
CYCLOTRON WITH SPATIAL VARIATIONS IN THE INTENSITY OF THE MAGNETIC FIELD.
mono. from Joint Institute for Nuclear Research, Dubna (USSR) 1959, p. 390, 39p.

Zumach, W.
PRECIPITATION OF RADIOACTIVE AEROSOLS WITH FIBER FILTERS (Abshcheidung Radioaktiver Aerosole mit Fasd Faserfiltern).
Atompraxis (West Germany) 1957, v. 3, p. 377-382,

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International Congress of Biochemistry (no. 1) Cambridge, Eng,	
1949, Abstracts of Communications	
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Ministerstvo Radiotekhnicheskoy Promyshlennosti. Nauchno-Issledovatel'skiy Institut. Trudy (USSR) 1956, no. 1, p. 17-33	428
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Molochnaya Promyshlennost' (USSR) 1958, v. 19, no. 2, p. 16-18	433
Morskaya Mikrobiologiya (Glubokovodnaya) Moscow 1959, 455p.	401
Moscow U. Vestnik Seriya Matematiki Mekhaniki Astronomii, Fiziki, Khimii (USSR) 1959, v. 14, no. 1, p. 105-108	421
Moskovskaya Sel'skokhozyaystvennaya Akademiya. Izvestiya (USSR) 1959, no. 2(27), p. 15-24	396
Muchener Medizinische Wochenschrift (West Germany) 1959, v. 101, no. 5, p. 184-186	403
Naturhistorisches Hofmuseum Vienna. Annalen (Austria) 1902, v. 17, p. 112-116	421
die Naturwissenschaften (Germany) 1958, v. 45, p. 538-539	456
Nauchnyye Doklady Vysshei Shkoly. Khimiya-Khimicheskaya Tekhnologiya (USSR) 1959, no. 2, p. 244-247	B-1
Nauchnyye Doklady Vysshey Shkoly. Metallurgiya (USSR) 1959, no. 1, p. 19-24	450
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Nauka i Zhizn' (USSR) 1946, v. 13, no. 7	401
1957, v. 24, no. 10, p. 63	431
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Naunyn-Schmiedeberg's Archiv fur Experimentelle Pathologie und Pharmakologie (Germany) 1928, v. 124, p. 334-342	404
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Opyt Ispol'zovaniya Domennykh Granulirovannykh Shlakov na Stroykakh Pridneprov'ya (Experience in the Use of Blast Furnace Granulated Slag in Structural Work in the Dnieper Region) Kiev, 1957, p. 97-120	425
Ogneupory (USSR) 1959, v. 24, no. 10, p. 433-480	438
Ovtsevodstvo (USSR) 1959, no. 1, p. 10-14	395
das Papier (West Germany) 1959, v. 13, no. 3/4, p. 37-44	441
1959, v. 13, no. 13/14, p. 293-301	445
de Papierwereld (Netherlands) 1958, v. 13, no. 2, p. 35ff	445
Patent (Belgium) 575-326	423
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Physics and Chemistry of Solids (U. S.) 1958, v. 4, no. 4, p. 283-305	464
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Podzemnaya Gazifikatsiya Ugley (USSR) 1957, no. 2, p. 27-31	440
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1957, no. 2, p. 79-86	440
1957, no. 4, p. 31-39	440
Politekhnicheskiy Institut, Odessa. Nauchnyye Zapiski (USSR) 1955, v. 5, no. 2, p. 81-85	446
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1959, no. 169, p. 2	B-1
Predvaritel'nyye Itogi Nauchnykh Issledovaniy s Pomshch'yu Pervykh Sovetskikh Iskusstvennykh Sputnikov Zemli i Raket, Sbornik Statey (USSR) 1958, no. 1, pt. 1, p. 5-39	431
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Revue de Chirurgie Orthopedique et Reparatrice de l'Appareil Moteur (France)	
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Revue de l'Institut Francais du Petrole et Annales des Combustibles Liquides (France)	
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Revue Francaise d'Etudes Cliniques et Biologiques (France)	
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Revue Generale du Froid (France)	
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Reyon, Zellwolle und Andere Chemisfasern (West Germany)	
1952, v. 30, no. 7, p. 343-346	412
Rivista di Pathologia Sperimentale (Italy)	
1932, v. 7, no. 7, p. 73-98	404
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1957, v. 33, no. 6, p. 52-54	405
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1934, v. 5, p. 57-60	403
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1938, v. 79, Suppl. no. 14, p. 15-26	399
Societa Italiana di Biologia Sperimentale. Bollettino	
1951, v. 27, p. 430-433	399
Societa Medico-Chirurgica di Pisa. Bolletino (Italy)	
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Societe de Chimie Biologique. Bulletin (France)	
1958, v. 40, no. 11, p. 1387-1413	400
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World Petroleum Congress (no. 5) New York, 1959, sect. VI, paper 1.	434
Yadernyye Energeticheskiye Ustanovki, Moscow	
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